

**The effect of an e-delivered dialogic reading programme,
for middleclass caregiver-preschooler dyads, on the
vocabulary and narrative skills of the pre-schoolers.**

By

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Declaration

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Abstract

Literacy rates in South Africa (SA) are low, with the cycle of poverty being continued by these rates (Spaull, 2015). Language abilities during the preschool years have been shown to correlate with later literacy skills and academic achievement (Hoff, 2013). If one promotes children's language development, literacy skills will in turn increase. Literacy interventions (such as dialogic reading (DR) programmes) can benefit language development in children of mid and high socioeconomic status (SES) (Zevenbergen and Whitehurst, 2003). The delivery and effect of DR interventions on language development of children from low SES communities are yet to be thoroughly researched, especially in SA. DR is one low cost literacy intervention (Vally *et al.*, 2014), as training of parents and the implementation requires no equipment other than the book being read.

The aim of this study was to ascertain if an electronically delivered DR programme could be successfully implemented in a mid-SES community in SA. The DR and control group each consisted of 10 parent-child dyads. Child participants were between 2;8 and 5;6 years old. Using books from Bookdash, a SA organisation that create culturally appropriate storybooks (Book Dash | New, African storybooks by volunteer creatives, 2020), I delivered a 4-week programme with weekly instructional videos to parents in the DR group on the Whitehurst's (2002) CROWD techniques (Completion, Recall, Open ended questions, WH-questions, Distancing). The control (traditional reading) group received the same four books, read to the children with little to no interaction with the book, over the same period. Directly before and after the four weeks, the children's vocabulary and narrative skills were assessed for change, with a self-made vocabulary comprehension and production assessment and the LITMUS-MAIN: English, respectively. Two focus groups were conducted post-intervention with parents from the DR group and were thematically analysed to establish if the parents found the content, delivery and duration of the programme appropriate.

The results show the DR programme improved vocabulary comprehension and production, and story structure, but not the structural complexity of the children's narratives, more so than the "traditional reading". Four case studies illustrate the findings of the study, featuring participants representative of the group, in terms of age and improvement. The focus groups indicated the content and e-delivery to be appropriate for the mid-SES community; however, it might not be appropriate for low-SES communities.

The implications of the findings are that an e-delivered DR programme can be successfully delivered improving the vocabulary comprehension and production and story structure of mid-SES pre-schoolers. Future studies should investigate the appropriateness and effect of an e-delivered DR programme and the content and delivery method for pre-schoolers with low SES.

Opsomming

Geletterdheidskoerse in Suid-Afrika (SA) is laag, en die kringloop van armoede word deur hierdie lae koerse voortgesit (Spaull, 2015). Taalvermoëns tydens die voorskoolse jare korreleer met latere geletterdheidsvaardighede en akademiese prestasie (Hoff, 2013). As kinders se taalontwikkeling verbeter, laat dit hul geletterdheidsvaardighede toeneem. Geletterdheidsintervensies (soos dialogiese lees (DL) -programme) kan taalontwikkeling bevorder onder kinders met mid- en hoë sosio-ekonomiese status (SES) (Zevenbergen en Whitehurst, 2003). Die lewering en effek van DL-intervensies op die taalontwikkeling van kinders uit lae-SES gemeenskappe moet egter nog deeglik ondersoek word, veral in SA. DL is 'n lae-koste geletterdheidsintervensie (Vally et al., 2014), aangesien oueropleiding en die implementering van die interventie geen toerusting benodig buiten die boek wat gelees word nie.

Die doel van hierdie studie was om vas te stel of 'n elektronies-gelewerde DL-program met sukses in 'n mid-SES gemeenskap in SA geïmplementeer kan word. Die DL- en kontrolegroep het elk uit 10 ouer-kind pare bestaan. Die kinderdeelnemers was tussen 2;8 en 5;6 jaar oud. Met behulp van boeke van Bookdash, 'n SA organisasie wat kultuurtoepaslike storieboeke skep (Book Dash | New, African storybooks by volunteer creatives, 2020), het ek 'n 4-week program met weeklikse instruksievideo's gelewer aan ouers in die DL-groep. Hierdie program en video's het gefokus op Whitehurst (2002) se sogenaamde CROWD-tegnieke (*Completion*/voltooing, *Recall*/herroeping, *Open ended questions*/oop vrae, *WH questions*/W-vrae, *Distancing*/distansiëring). Die kontrole (tradisionele lees) -groep het dieselfde vier boeke ontvang, wat gedurende dieselfde periode aan die kinders voorgelees is met min of geen interaksie met die boek nie. Direk voor en ná hierdie vier weke is die kinders se woordeskat en narratiefvaardighede getoets met onderskeidelik 'n self-opgestelde woordeskatbegrip- en -produksietoets en die LITMUS-MAIN: Engels. Twee fokusgroepbesprekings is ná interventie met ouers uit die DL-groep gehou en is tematies geanaliseer om vas te stel of die ouers die inhoud, lewering en duur van die program toepaslik gevind het.

Die resultate toon dat die DL-program, tot 'n groter mate as “tradisionele lees”, woordeskatbegrip en -produksie en storiestructuur verbeter het, maar nie die strukturele kompleksiteit van die kinders se narratiewe nie. Vier gevallestudies, met deelnemers wat verteenwoordigend is van die groep in terme van ouderdom en mate van verbetering, illustreer

hierdie bevindinge. Die fokusgroepbesprekings het aangedui dat inhoud en e-aflerwing geskik is vir die mid-SES gemeenskap, maar dalk nie vir lae-SES gemeenskappe nie.

Die implikasies van die bevindinge is dat 'n e-aflerwer DL-program suksesvol gelewer kan word en woordeskatbegrip en -produksie en storiestruktuur van mid-SES voorskoolse kinders verbeter. Toekomstige studies kan die toepaslikheid en effek van 'n e-gelewerende DL-program en die inhoud en aflerwingsmetode vir voorskoolse kinders in lae-SES gemeenskappe ondersoek.

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Chapter 1: Introduction

This study is the forerunner of an intervention study that will aim to promote literacy and language skills in communities with low socioeconomic status (LSES), by means of a dialogic reading (DR) programme. The current study pilots this online DR programme in a community with mid socioeconomic status (MSES) to assess the appropriateness of the e-platform for the delivery of a DR programme as well as the content and scheduling of the programme itself. MSES communities are more likely to have access to the technology and data needed to partake in the e-delivered DR programme, compared to LSES communities who often have financial restraints not allowing for excess expenditure on data and electronic devices, for use with/by children. If an e-delivered DR programme were to be implemented in a LSES community and proves unsuccessful, financial limitations of the users of the programme will need to be considered as a main factor possibly contributing to the failure. I needed to pilot the e-programme in a context in which financial limitations that could influence programme fidelity could be excluded. For the purposes of the current study, I wanted to pilot the programme to assess the suitability of the content thereof for South African English-speaking children, and piloting it in a MSES community allowed me to disentangle possible programme shortcomings (in terms of content, delivery scheduling, support offered to caregivers, and logistical matters not pertaining to financial constraints) from financial challenges, so that programme shortcomings could be addressed directly.

Internet-based language and/or reading interventions are preferable (not only due to the COVID-19 pandemic currently making face-to-face data collection impossible, but also due to the social and financial contexts of LSES communities, for example, the inability to travel to get to programme locations, or take time off work to join in a training session) because the participants are able to complete the tasks at their own speed and in their own time. (This latter aspect also benefits members of MSES communities). This delivery method also diminishes any stigma related to illiteracy/low literacy levels, or past literacy attainment opportunities of the caregivers, as the delivery is done privately, making it possible for the caregivers not to disclose their literacy levels. There are also no face-to-face interactions which require the participants to travel to locations (which would cost time and money), and this also further facilitates privacy (Marks, Cavanagh and Gaga, 2007). The issue of many members of LSES communities not being knowledgeable in the use of those technologies employed in internet-based interventions (Cuijpers and Riber, 2007) would be overcome in the intervention

programme developed and piloted in this study, as the intervention is administered via the mobile application WhatsApp, rather than via an application developed specifically for the purposes of delivering the programme. Many people already have WhatsApp on their phones for everyday use and therefore do not need data to download a special application before they can commence with the DR programme. In fact, WhatsApp is used by over 2 billion people worldwide (WhatsApp.com, 2020), with approximately 50% of the South African population utilising the application (Clement, 2020). With over 90 million cell phone connections in South Africa, and over 20 million smartphone users (Statista.com, 2020), the use of mobile applications for providing interventions such as this one would be optimal. This programme was also made to be as data-light as possible, meaning the downloading of any information or media needed for the program did not cost the participant much money.

Previous studies on DR typically used timeframes of 8 weeks (e.g. Vally, Murray, Tomlinson and Cooper, 2014) or 12 weeks (e.g. Moore, Durwin and Carroll, 2018) of training. I used a shorter timeframe for intervention to ascertain whether the intervention makes a significant difference in a shorter period of time, because many people do not have a lot of time to attend training courses and implement programmes while working and parenting full-time. I wanted to see how the programme fared in a better resourced community (the current study), before it is piloted in a LSES community (in a follow-up study, not for the purposes of the current degree), to see if it is indeed a cost- and time-effective way to train the caregivers in DR.

In order to see whether the DR had an effect, pre- and post-testing of the children's vocabulary and narrative skills took place (with the vocabulary items being a selection of those that appear in the books the caregivers read to the children), via the video-call platform Zoom. There were also two post-intervention focus group discussions with the caregivers, via Zoom, during which their experience of the programme (and the experiences their children reported to them) was discussed.

There was one experimental group, which was the group that did the DR programme (reading for 10 minutes a day, Monday to Friday), and one control group, who completed ordinary reading sessions (reading for 10 minutes a day, Monday to Friday, the way they normally would at home, with as little questioning and interaction from the child as possible). Because the instructional (DR) programme proved to be beneficial (as will be discussed), it was made available to the control group participants after data analysis was completed.

This study was completed in English, with monolingual English-speaking or English-dominant participants.

1.1 Background to the study

This research came about from a personal interest in child language development, that stemmed from my Honours research, and the impact of the Covid-19 pandemic that hit South Africa in March 2020.

Originally, I had planned on doing this type of study with a LSES community, training illiterate or less literate mothers to read effectively with their children, to see if the training influenced the children's language development (specifically vocabulary growth and narrative skills) as well as the mothers' literacy levels. Due to the Covid-19 pandemic, social interaction was prohibited, which forced me to change my research to a distance/online-based study and because of this, I was not able to work with the LSES community I had identified. Given the financial constraints experienced by members of LSES communities, access to electronic devices, online platforms and the availability of the data it would require to participate in the study, was limited. Had I had a stronger relationship with the identified LSES community at the time social distancing was required, I would have been able to arrange loan devices and data bundles for participants. However, social distancing was announced before I had selected participants and obtained parental consent and child assent, and it proved difficult to obtain such consent online from members of the LSES community. This resulted in me having to pilot the programme in a MSES community who would have access to the necessary devices, online platforms and data. This forced change in participants had benefits: it allowed me to see if the e-delivered programme would work well in a MSES context, and if it didn't, I would be able to rule out financial constraints as reasons for the failure and I would know that the content and/or scheduling of the programme needed adjustment.

The issue of efficacy and effectiveness comes into play when looking at the delivery of such a programme when transitioning it into a 'real world' LSES community. There are many influencing factors that may cause the programme to succeed or fail. DR programmes have been shown to have efficacy in numerous high-/mid-SES communities (as mentioned in section 2.3), with children's emergent literacy skills improving in what could be considered 'ideal environments', i.e., where there is access to all materials and sufficient training. However, there

are not as many studies that show the same for low-SES communities in Africa, especially South Africa. This study is a pilot of a programme that, should it prove efficient in the mid-SES community (the ‘ideal environment’), could potentially show effectiveness when utilised in a low-SES community.

1.2 Research questions

This study aims to answer the following questions:

- 1) Can providing an e-delivered dialogic reading programme to MSES caregiver-preschooler dyads improve the vocabulary of the preschoolers?
- 2) Does the dialogic reading programme improve the pre-schoolers’ narrative skills?
- 3) How is the content and delivery of the DR programme received by the caregivers in the study?

1.3 Brief description of the research methodology

This study provided e-instruction to caregivers of preschool-aged dependants (henceforth: children) that provided the caregivers with the skills needed to complete DR tasks with their children during a 4-week programme. (Afterwards, the caregivers in the control group were given the material and information relevant for them to do the programme on their own time.) The caregivers received all information/instruction, media and documents via the application WhatsApp, which they then in turn utilised during the DR sessions with their children.

The DR programme that participants completed had a duration of 4 weeks, excluding the individual pre- and post-intervention assessments (see below). The parents of the DR group were also invited to participate in one of two focus group discussions about the programme after the 4 weeks was over.

An admin-controlled WhatsApp group was created for each group, where only I (as the admin) could send messages. The WhatsApp groups were used to send out information, links, material, and reminders to the parents. The experimental group received an e-book and an instructional video each week, whereas the control group received only the e-book.

Pre- and post-tests were done via the application Zoom, assessing vocabulary production (see Appendix A) and comprehension (see Appendix B) and story retell (see Appendix C).

The final participant activity was focus group discussions with the parents/caregivers of the experimental group, in the form of two video calls hosted on Zoom, across two evenings.

1.4 Thesis outline

Child language development (CLD) and SES will be discussed in chapter 2: CLD and how it changes in different contexts, as well as SES in the context of South Africa, will be discussed. Next, I will discuss the relationship between CLD and SES, and the challenges for adequate CLD in the South African context. This will be followed by a discussion of how the phenomenon of child language development and SES influenced my decision on research topic, and methodology.

Chapter 3 sets out the methodology used for this research. Topics discussed include ethical considerations of the study and the participants, how they were recruited and what they were asked to do, as well as the data collection methods, analysis, interpretation and validation.

Chapter 4 contains the results and analysis, looking at the results from the pre- and post-testing (a vocabulary production and comprehension task as well as a story-retelling task). Finally, a thematic analysis of the focus group discussions is done. This is followed by a summarised conclusion of results.

Chapter 5 is the conclusion, which contains a discussion of results, limitations of the study and the implications of its findings for DR and further research.

1.5 Definition of key terms

The following terminology will be used frequently throughout this thesis.

Dialogic reading (DR): DR is an active shared book-reading activity used to promote literacy in young children, that incorporates questions and conversation about what is being read (Zevenbergen and Whitehurst, 2003).

Vocabulary:

Vocabulary *noun* (plural vocabularies)

1. all the words used in a particular subject or language **2.** The words known to an individual person **3.** A list of words with their meanings. [from Latin *vocabulum* = name] (Delahunty, 2002)

For the purposes of this study, the second definition is used; whether or not certain words were known to individual children was assessed.

Vocabulary production: Vocabulary production is when a person produces words from their vocabulary; it is the actual words a person uses (Pan, Rowe, Singer and Snow, 2005). According to Burger and Chong (2011), vocabulary production is an expressive skill, whereby the person expresses them self or produces utterances by speaking or writing. In this study, spoken vocabulary production was assessed.

Vocabulary comprehension: Vocabulary comprehension is the ability for a person to comprehend words they hear (Hoffmann *et al.* 2019). According to Burger and Chong (2011) vocabulary comprehension is a receptive skill, being that which is understood by a person. This includes spoken, written or manually signed words. This study focused on the comprehension of spoken words only.

Narrative skills: Narrative skills are the skills a person has, or acquires, in order to tell, retell and understand a story (Gagarina *et al.*, 2012)

E-delivered: For something to be delivered/presented electronically, meaning via an online platform such as WhatsApp or email.

CROWD: CROWD is an acronym created by Whitehurst (2002) that is used to guide a reader through a DR activity, to promote questions and conversation about what is being read.

C = Completion – the child repeats a common word or phrase heard in the story. This motivates the child to listen for their part.

R = Recall – ask the child what they remember about the story or what is about to happen next, or to summarise the story at the end in their own words.

O = Open-ended – ask the child what is happening in the pictures. This helps increase the child's expressive language, vocabulary and narrative skills.

W = Wh- questions – ask who, what, where, when, why and how questions about the story/pictures. This teaches the children new vocabulary by repeating words they heard in the story.

D = Distancing – relate the story to something in the child's life and let them talk about it and make the connection. This helps the child bridge the gap between reality and what is happening in the story which increases vocabulary, conversational and narrative skills.

PEER: PEER is another acronym created by Whitehurst (2002) which is used to remind the adults to prompt the child to comment on the book (P), evaluate the response (E), expand on what the child says (E) and repeating the prompt to solidify the new information learnt by the child (R).

Emergent literacy: Emergent literacy is the basis upon which children's reading and writing skills are developed. It describes young children's behaviours, skills and concepts which develop into conventional literacy (Sulzby, 1985).

Child language development (CLD): Child language development is the way in which children learn to utilise language. CLD is often used interchangeably with the term language acquisition, as those who like to mention the continuity of language development prefer (American Psychology Association, 2015).

Socio-Economic Status (SES): Socio-economic status is comprised of levels of education, work status/job and the income of the parents (American Psychology Association, 2015).

Chapter 2: Literature review

This literature review sets out to explore four aspects pertinent to the research objective, mainly: child language development, emergent literacy skills, dialogic reading and e-delivered programmes for language stimulation. The reason for addressing these factors in depth is in order to answer the research questions, by determining:

- whether or not this type of intervention is appropriate for preschool-aged children
- which emergent literacy skills this type of intervention would impact
- whether dialogic reading, as an intervention tool, will provide the outcomes we were looking for in a programme
- whether or not providing an e-delivered intervention is appropriate or possible

2.1 Child language development

The following review of child language development related literature explores the changes in language as a child grows, the external influencing factors on the child's language development (such as SES), the results of the many influencing factors, as well as child language development in the South African context.

Werner, Fay and Popper (2011) discuss how an unborn child's hearing is functional from around the 24th-28th week of gestation, meaning that the unborn child's spoken language experience starts well before birth. Nazzi, Bertoncini and Mehler (1998) state that a newborn can differentiate between languages they have heard and those they have not, according to the different speech rhythms, and that the newborns have a preference for their mother's voice and the language(s) they heard while in the womb. By the age of around 2 years old, it is said that a child will be an official native speaker, rather than a universal listener (Gervain, 2015), and at this age there is usually a sharp increase in the number of words (the so-called 'word spurt') a child knows (Dapretto and Bjork, 2000:635). Several researchers, such as Dapretto and Bjork (2000), have reported this significant increase in the number of words children know at the age of 2;0 to 2;6 years. According to Dapretto and Bjork (2000), the increase in word acquisition, once expressive language starts developing, is initially quite slow (meaning children only learn a few words per month). However, when children near the end of their second year, they tend

to show a vocabulary growth spurt, which normally happens around the time that their productive lexicons are at 50-100 words (Dapretto and Bjork, 2000:635).

Each year of life brings about different imperatives (that build on one another as the child gets older) when it comes to a child's language development, such as the "quantity of parental input" in the second year of life, referring to the amount of time a parent spends talking or reading to the child, and "diversity of parental vocabulary" in the third year of life, which refers to the parent introducing more vocabulary, and more difficult/new concepts. In the fourth year, "the use of decontextualised language such as narratives and explanations", referring to the parent/child telling stories, as well as the child eliciting explanations by asking 'why' in order to understand novel concepts better, is deemed the most important (Rowe, 2012:1771). Rowe (2012) concludes that it is possible for parents to build on a child's vocabulary acquisition by exposing them to different types of speech at different points in their development, meaning that the quantity and diversity of input as well as decontextualised input remain important throughout those 4 years of language development in a child's life.

According to Hart and Risley (1995, 2003), by the age of 4 years the child's vocabulary is mainly influenced by the words used by the parents/caregivers. Other influences on a child's language development are the language and literacy interactions a child experiences if they attend a pre-school, or day care, and these experiences are seen to be introduced mainly by the teacher-child interactions in the classroom (Dickinson, McCabe, and Essex, 2006). According to Biemiller (2006), studies have shown that 1 year of school has little to no influence on a child's vocabulary, with the oldest children in the school year having the same vocabulary scores as the youngest children in the school year (having an age difference of 11 months), with the results pointing even more to home child-adult interactions having the most influence on a child's vocabulary.

2.1.1 Child language development and SES

In relation to a child's development, studies have shown that SES¹ has been connected to maternal education (seen in the review of research by Ensminger and Fothergill, 2003), with

¹ According to the American Psychology Association (2015), SES refers to the social standing of an individual or group. Kohn (1963) states that SES is determined by basic life conditions, which are determined by the level of

the mother's education usually being the gateway into a certain social standing. This means that any child then born into that family will "inherit" that specific social standing, giving them the corresponding level of access to education, medical care and living conditions.

For the purposes of this research, I recruited parents/carers who self-identified as coming from a MSES community, meaning their child would also be from within the same SES standing (see chapter 3.3).

A child's development is made up of a variety of aspects, one of which is vocabulary acquisition. Early life experiences have been shown to shape children's language and cognitive skills (Dicataldo and Roch, 2020). According to Hoff (2006), there are numerous factors which affect child language development, such as SES, ethnic group and culture. Other direct influencing factors include parents, television, class-mates/friends, childcare location, whether or not they are first born or not, their mother's age, and how many languages they speak, or are exposed to on a regular basis, some of which are related to SES. Parents with low SES have been shown to interact with their children differently linguistically, resulting in lower language development when reaching school age (Hart and Risley, 1995). For the purposes of this research, the influence of SES on child language development will be focused on.

It has been shown that a child's language development has important influences on their academic success, over and above the effect on school reading (National Research Council, 1998). According to Snow, Burns and Griffin (National Research Council, 1998) a child's success (graduation) while at school can be predicted by knowing the reading skill of that child at grade 3 age. Snow *et al.* (National Research Council, 1998) thus posit that if a child can read well at grade 3 age, they are more likely to do well in school, and more likely to graduate from high school. According to Snow *et al.* (National Research Council, 1998), reading instruction or intervention should not be something that is left until deemed 'necessary' due to disability, diagnosis, or a perceived literacy/language issue. According to the authors, postponing or prolonging the wait to begin treatment until a child is diagnosed with a disadvantage or disability, is too late (National Research Council, 1998), and reading instruction or intervention should be started from home, in the preschool years.

social order, comprising income, education level, and occupational prestige. With regards to access to resources, SES has been examined and shown to contribute to inequities, as well as issues of advantage, ability and authority (American Psychology Association, 2015).

For a child to start learning to read, they need a well-developed vocabulary (National Early Literacy Panel, 2009), otherwise it is like a child trying to do mathematics without knowing any numbers. For some children, their environments (influenced by SES) are not conducive to developing the vocabulary needed to start school level reading (Hart and Risley, 1995). According to Chaney (1992), phonological awareness has been correlated with general language ability, meaning that as the child's vocabulary size increases, so does their phonological awareness. Hoff (2013:4) states that LSES children and language minority children in American schools perform poorly compared to the MSES (or higher) children that only speak English, and that this difference is often attributed to the differences in language skills of the children.

Parents from lower SES communities have been found to provide less linguistic input, and language that is often lacking in linguistic richness (Hart and Risley, 1995), such as shorter utterances directed to their children (Pianta, 2006). The type of caregiver-child interaction, and the amount and quality of speech the child is exposed to is also affected by SES (Olson, Bates, and Kaskie, 1992).

According to Hoff (2013:4) the trajectories of a child's language development differ according to their socio-economic status (SES) and whether or not they speak a language other than English at home (note that Hoff is referring to the context of the USA, where English is the official language; "English" should thus be read as "dominant language of the community"). With South Africa's 11 official languages (Tibane, 2020), the majority of children grow up speaking more than one language. On the South African Government's page 'South Africa's people' edited by Elias Tibane (2020), it states that the majority of the South African population is able to speak more than one of the official languages, sometimes more than two. This suggests that the language development of 'most' South African children will differ from monolingual speakers, over and above the influence of SES. Hoff (2013:4) also found that LSES and language minority children have linguistic strengths; however, when they reach school age their English language skills are weaker than those of their MSES monolingual peers. Those strengths are highlighted by Heath (1983), with young boys from LSES communities in America (under the age of 4), being able to "hold the floor and engage the attention of adults with the stories they told, using a variety of poetic devices, sound effects, and accompanying movement" (Hoff, 2013:7). Narrative skills are skills that children, aged 3 or 4 years old, start using that develop over time (Stadler and Ward, 2005). According to Morrow (1985), in the development of oral language, storytelling is a useful tool, and

something that has a link to literacy levels and in turn can give insight into the academic success of the child (Bishop and Edmundson, 1987).

Research shows that by 3 years of age, children in higher-SES communities had vocabularies twice as big as the lower-SES children (Hart and Risley, 1995). Farkas and Beron (2004) found that the majority of vocabulary acquisition differences (between lower and higher SES children) were apparent before 3 years of age. They also found that the vocabulary disparities that were apparent at age of school entry continued past the age of 13. This led Farkas and Beron (2004) to conclude that by 3 years of age, a child's SES has had such an effect on their language experience that language disparities are created. Those disparities then widen further during preschool, and after preschool that level of disparity is what they continue into their lives with (Farkas and Beron, 2004). This in turn will affect their primary school, high school and any further education they may pursue, and will extend into their working life.

Hoff (2013:4) states that there are two prominent arguments when it comes to the achievement gaps created due to language development:

One argument is that the less successful children [with regards to achievement at school] are deficient in their English language skills, and the children's difficulties arise from these language deficits. The other argument is that the less successful children have different but not deficient language skills, and their academic difficulties arise from a mismatch between the skills the children possess and the skills that schools require.

SES has been linked to a wide variety of developmental outcomes, such as intellect, school achievement and readiness for pre-school children (as discussed in Sirin's (2005) meta-analytic review of research on SES and academic achievement). Morgan, Farkas, Hillemeier and Maczuga (2009) state that children from LSES communities develop slower in terms of academic skills than children from HSES communities. This is contributed to negatively by the fact that schools in LSES areas are commonly under resourced, with regards to the high student-teacher ratio, lack of access to academic materials, poorer school facilities, and little governmental support, amongst others (Aikens and Barbarin, 2008).

A widely debated study by Hart and Risley (1995) on SES and vocabulary, attempted to showcase the influence of a parent's occupation (and therefore SES) on the child's language development. They recorded the words spoken to 1-year-old children, in monthly 1 hour observations, and then calculated the mean number of words in each observation to then predict

the number of words the child would hear up until their fourth birthday (Hart and Risley, 1995). The results showed that not only did 3-year-old children from LSES families have smaller vocabularies than their peers in professional families, but they were also slower in expanding their vocabulary with new words, stating that children from LSES families heard on average 30 million less words than children from higher SES families (Hart and Risley, 2003). After this study was published and was written into many different policies, researchers started questioning aspects of the study, such as the small sample size (42 family groups) and that they only recorded words spoken by the child and spoken to the child (Sperry, Sperry, & Miller, 2019). The critical researchers believed that child-directed speech was not the only contributing factor, and that Hart and Risley's disregard for the words spoken/heard in the child's environment was a narrow viewpoint (Sperry, Sperry, & Miller, 2019). Even though Hart and Risley's (1995) study was highly criticised (see Raz and Beatty, 2018 for a review of studies that criticise Hart and Risley's research), there have been some who have realised the need to not disregard the study in totality, but to focus on the realisation that the quality of speech directed to children is of importance in child language development, in conjunction with overhearing speech in their environments (Golinkoff, Rowe, Hoff, Tamis-LeMonda, and Hirsch-Pasek, 2019). Golinkoff *et al.*, (2019) concluded that for a child to participate in contingent conversation, about topics which matter to the child, is as important as what the child hears in their environment when it comes to the child's language development. This means that adults need to focus on the amount they communicate with children, as well as increase the quality of the language they use with and around the child, as the child not only learns words from the adult when the words are directed at the child, but also when words are directed to others around the child.

Dale *et al.* (2015) show that parental behaviour within SES levels varies much more than assumed, meaning that the assumptions of low parent-child speech in the LSES communities does not always hold true, as every parent and parent-child dyad is different. Pan, Rowe, Singer, and Snow (2005:776) found that the mother's vocabulary diversity that is directed to children, predicted the vocabulary production growth of the child and that this was seen to be prominent around the time the child turns 2 years old. Hart and Risley (1995) also found that the amount of verbal input from the mother (or maternal figure) differed between populations of different SES.

Hoff (2013) states that the education of the mother might be the aspect of SES which relates most to the child's language development, and Hoff (2003) showed that aspects (such as

quantity, lexical richness, and sentence complexity) of the mother's speech highlighted differences in 2-year-old children's vocabulary, proving that the input and language acquisition link is causal (Hoff, 2013). Hoff (2003) found that caregivers from the higher SES communities use more words with a greater variety, and use longer sentence structures, compared to the caregivers from the lower SES communities. This means that more educated mothers will speak differently to their children, and will in turn enable the child to develop vocabulary and language skills that a child from a LSES family would not develop in the same way, if at all. From this, one could suggest that providing suitable reading interventions that help train and educate both the caregiver and child in reading techniques, would in turn reduce the gap between the LSES and M/HSES children's vocabulary.

According to Biemiller (2006), children that present with smaller vocabularies compared to those with larger vocabularies, acquire new vocabulary during instruction in the same way, which suggests that the disparity in vocabulary size could be due to the child's word learning opportunities, rather than their ability. Therefore, if you were to increase a child's opportunity to acquire vocabulary (for example, with a shared book reading intervention), one would expect the vocabulary of the child to increase regardless of SES.

2.1.2 South African context of SES

The wealth gap in South Africa is one of the biggest in the world, with the top 10% of South Africans spending 7,9 times more money than the bottom 40%, as of 2015 (Stats SA, 2020). On average, South African female workers earn 30% less than South African male workers (Stats SA, 2020). Moreover, males have a higher chance of being employed, and being employed into higher paying jobs, compared to their female peers (Stats SA, 2020). According to researchers worldwide, South Africa is considered a middle-income country; however, the levels of poverty indicate that it has one of the highest levels of inequality in the world (Statistics South Africa, 2019). In 2007, the rural areas in South Africa had a poverty rate of 71% (Mayekiso and Tshemese, 2007). The South African Government completed a survey in 2014/15 that looked at the living conditions of the South African population. The results showed that there were 35,1 million adults (aged 18 years and older) in South Africa in 2015,

and using the UBPL² to look at the poverty headcount by sex, showed that the adult males and females experienced a headcount (number of adults under the UBPL) of 46,1% and 52,0%, respectively. It highlighted the fact that adult females experienced higher levels of poverty when compared to males, regardless of the poverty line used (South African Government, 2020). With the rates of female poverty, it increases the rates of children in poverty, as children tend to stay with their mothers (43,1% of children live with their mother only) (Statistics South Africa, 2020).

When it comes to the education of children from LSES families, three in five do not attend school consistently, which is reflected in their lower academic scores (Statistics South Africa, 2012). If there is an increase in education, there will be an increase in people getting jobs (Organisation for Economic Co-operation and Development, 2019), and with people getting jobs, people from LSES communities are able to escape the cycle of poverty and are able to provide their children with a better quality of education. The development of a child's language is influenced and shaped by many different aspects, from prenatal to the older years of a child's developing life (Gervain, 2015). Due to the increase in vocabulary knowledge at the age of 2 onwards, it gave me reason to look at the influence of DR on the vocabulary and narrative skills of children between 2;8-5 years old, which is after that sudden increase in vocabulary and before they start school and formal reading instruction (see chapter 3.3).

Due to South Africa's high numbers of children living in LSES communities (62% - Statssa.gov.za) with poor language development related to their SES standing, I wanted to look at an intervention that could help those children from the LSES communities without it being unaffordable. However, the Covid-19 pandemic made the initial idea of an intervention for a LSES community impossible, which resulted in the current pilot of the study in a MSES community.

Sticht and McDonald (1990:1) state that the levels of illiteracy could be dramatically reduced in a cost-effective manner by focusing more on the education of women. Educating and empowering mothers and female caregivers through literacy activities can in turn allow for the children of those caregivers to break the cycle of illiteracy and, in turn, poverty. Sticht and McDonald (1990:1) also state that when mothers are educated, they can contribute to the cognitive and language skills of their preschool children, which gives the children an advantage

² UBPL – Upper-bound poverty line – The national poverty lines are when welfare is linked to the consumption of goods and services, which includes both food and non-food components of household consumption expenditure.

(such as the linguistic input from the mother and the possible language environment) as well as will continue to affect their educational success. This is the reason this study focuses on providing the training to the caregivers, rather than the teachers.

This review of child language development related literature is what led to the decisions on the age of the participants recruited for this study, as it highlights the ages where children experience the most language development. It also made clear that low-SES communities are the communities that need this type of intervention the most, which in turn influenced the SES of the community where the participants were recruited from for this study.

2.2 Emergent literacy skills

The following literature review explores the different aspects of emergent literacy skills pertinent to this study. Such as the influence on a child's emergent literacy skills according to their SES, as well as the different kinds of emergent literacy interventions.

Emergent literacy is made up of oral language, phonological awareness, and print knowledge that a child has, or develops, during their preschool years, and these are good indicators of how fast and how well they will read once they start formal reading instruction (Lonigan, Burgess, and Anthony, 2000). A child's reading and writing skills are built on the foundation of the child's emergent literacy. The foundation of emergent literacy for a child is acquired before they reach school age and the age of formal literacy instruction, which is from birth to around 6 years of age (Justice, Chow, Capellini, Flanigan and Colton, 2003:1).

For a child to pass grade 3 level reading comprehension, they would need to have fluent word recognition and an average or above average vocabulary (Biemiller, 2006), and this would mainly come from their preschool exposure to language environments, as mentioned throughout this literature review. Snow, Burns and Griffin (National Research Council, 1998) highlighted the need for a new focus on preschool interventions of emergent literacy in order to prevent reading difficulties.

According to Mol, Bus, de Jong and Smeets (2008), reading material exposes children to vocabulary that is not often found in everyday conversations. Byington and Kim (2016:601) state that to have exposure to materials that promote literacy skills, "such as books, puppets, flannel boards, and writing tools", constitutes a "literacy rich environment", which, as spoken

about below, is what is needed for a child to reach school age with the appropriate level of emergent literacy.

2.2.1 Emergent literacy and SES

SES has been shown to influence emergent literacy, with children who have had ample exposure to written language being seen to acquire emergent literacy skills easier, and therefore earlier, than children who have not had the same exposure. This could be due to limited parent-child reading experiences (Justice *et al.*, 2003) due to LSES families not having access to printed text or parent's not having the time to read with the child. Zevenbergen and Whitehurst (2003) propose that the disadvantages in the child's homelife could be the reasons for these children entering school with lower levels of language skill. For children in LSES communities, there is often only a limited amount of exposure to oral and written language, and as such, this contributes to the low levels of emergent literacy seen in the LSES communities (Justice *et al.*, 2003).

The limited exposure to literacy that a child in a LSES community may have results in the child entering school with lower levels of vocabulary and reading skills, after which the gap between children from LSES and MSES backgrounds has been shown to increase as they progress through elementary school (Hart and Risley, 2003). More recent studies have shown that the achievement gap, which has been previously linked to reading levels, does not decrease as the child progresses through the elementary school years (van Hoppel, Workman and Downey, 2018). According to the USA National Centre for Education Statistics from 2015, 21% of children from LSES communities read at proficient levels, compared to over 50% of children from higher-SES families (Durwin, Moore, Carroll, & Chiaraluce, 2018). Durwin, Carroll and Moore (2016) found that many of the children who arrived at school with lower levels of literacy were lacking in productive vocabulary and the general knowledge that comprehension builds from. Therefore, they decided on using DR as their intervention to address these gaps.

2.2.2 Emergent literacy interventions

Researchers such as Watkins and Bunce (1996) state that children acquire emergent literacy most effectively through literacy interactions (e.g., with books and writing instruments) that occur often, in an informal and natural manner, that have meaning to the child. Caregiver-child interaction with said artefacts, guided by someone with the knowledge of how to promote emergent literacy, has been shown to increase the child's emergent literacy levels (Justice and Ezell, 1999). For this American population, one such guided interaction is caregiver-child storybook reading, as it is something which is contextualised, meaningful, intriguing and stimulating to the pre-schooler (Watkins and Bunce, 1996).

Justice and Ezell (1999) state that emergent literacy knowledge for children is improved when doing activities such as shared-book reading and other literacy-based interactions, due to the adult instruction and scaffolding³, as well as the child's interest and engagement. According to Justice *et al.* (2003), when a child is exposed to and participates in literacy activities, it increases the child's emergent literacy knowledge in an implicit manner (being without direct instruction).

Justice *et al.* (2003) conducted a study that provided 4-year-old pre-schoolers, who were identified as being at-risk due to multiple factors (referring to language impairment and poverty), with an experimental, explicit, emergent literacy intervention. The participants were from LSES communities, attended "at risk" schools in LSES communities, and also presented with difficulties in oral language development, such as a variety of speech production impairments (Justice *et al.*, 2003). Their intervention had a duration of 12-weeks that was divided into two 6-week timeframes of 12 half-hour small groups, using an explicit approach to emergent literacy instruction (Justice *et al.*, 2003). This study included pre-, interim- and post-testing of the child's emergent literacy knowledge (Justice *et al.*, 2003). They found that the children involved in the 12-week intervention made significant improvements in "collective consideration of the emergent literacy measures" (Justice *et al.*, 2003:327).

As stated above, Justice *et al.*'s (2003) study looked at the influence of a 6-week explicit emergent literacy intervention, whereas the current study attempted to do a shared book reading intervention in 4 weeks, in an implicit manner (see below). They also looked at 4-year-old children, which is an age that is in the middle of the current study's target age range of 2;8-5 years.

³ Referring to the way an adult adjusts their language level to match the language level of the child recipient (U.S Department of Education, n.d.)

The current study incorporated techniques which typically increase children's emergent literacy knowledge (vocabulary and narrative skills) in an implicit way, as it was done without any direct instruction to the child, by providing the caregiver with the instruction (in the form of instructional videos) on how to complete certain DR techniques.

This review of emergent literacy skills is what led to the decision of which emergent literacy skill to focus on for this study, reading. As this is one skill that has been shown to have big impacts on the academic success of children once they are in school.

2.3 Dialogic reading

The literature explores dialogic reading and the different aspects pertinent to this study. It reviews what DR is, different DR interventions, the influence of SES on DR and DR interventions, as well as DR in the South African context.

DR is an active shared book-reading activity used to promote literacy in young children, that incorporates questions and conversation about what is being read (Zevenbergen and Whitehurst, 2003). Whitehurst *et al.* devised the DR technique in 1988 and later put together the acronym CROWD (see section 1.5 for definition) with Zevenbergen in 2003, to assist parents with remembering the five types of questions to use while doing DR with children of age 4-5 years old. Zevenbergen and Whitehurst (2003) found that DR had a positive impact on the emergent literacy and language skills of children. One of their goals with DR was for the narration of the story to be passed to the child, by discussing the story but relating it to their own personal interests (Zevenbergen and Whitehurst, 2003). PEER (see section 1.5 for a definition of this acronym) was another tool created to assist with DR (Zevenbergen and Whitehurst, 2003), and can be used in conjunction with or in place of CROWD, as seen in the randomised trial undertaken in Kenya by Knauer, Jakiela, Ozier, Aboud and Fernald (2020), expanded on below.

Not only has DR been used for literacy purposes (Zevenbergen and Whitehurst, 2003), but also for promoting parent-child relationships, as seen in Ganotice, Downing, Mak, Chan and Lee's (2016) study on 'Enhancing parent-child relationship through Dialogic reading'. Ganotice *et al.* (2016) state that storytelling is a social experience between adults and children, which makes it likely that the parent-child relationships could also benefit from dialogic reading

strategies. Another purpose would be using DR to improve attention, as seen in the Vally, Murray, Tomlinson and Cooper study done in 2014 that introduced a DR intervention into a LSES community to investigate the impact DR would have on children's language and attention.

Previous studies on DR used timeframes of 8 weeks (e.g. Vally *et al.*, 2014) and 12 weeks (e.g. Moore, Durwin and Carroll, 2018) of training. The shortest timeframes found in the literature were 4 weeks, by Whitehurst, Falco, Lonigan, Fischel, DeBaryshe, Valdez-Menchaca and Caulfield (1988) and Arnold, Lonigan, Whitehurst and Epstein (1994). Both of the 4-week long studies highlighted that short DR interventions can positively influence the language development of children (from high- and middle- SES communities). According to Stahl and Fairbanks (1986), the interventions that resulted in the desired outcome in terms of vocabulary and comprehension of text were usually 6 weeks or longer. Biemiller (2006) states that interventions involving young children, which are done in the classroom, are not given the appropriate timeframe in order to influence vocabulary levels. This would indicate that interventions should either be done for longer periods of time or in a way that the adult participants can continue the intervention once the 'study' part is over.

Tayob and Moonsamy's study (2018) focused on the caregivers, not the children. They wanted to ascertain what skills the caregivers already utilised to promote language and literacy development, so that intervention programmes could be built on these as foundations. They found that the caregivers utilise some skills; however engagement in self-reflection on the reading processes was not adequate. They also found that caregivers used reading strategies to promote understanding and recall by asking questions, and that they encouraged speaking by getting the children to act out the roles of the main characters (Tayob and Moonsamy, 2018).

From this, one could posit that many people know basic skills that promote literacy (as seen in the focus group discussion analysis of this thesis), but are unaware of the importance of what they are doing, and haven't had the opportunity to learn the skills needed to help improve their child's language development.

A recent study focusing on the training of caregivers is the Knauer et al. (2020) randomised trial in Kenya. It had objectives and methods similar to this study, in that it was looking for a cost-effective, time sensitive intervention that would help improve children's emergent literacy skills. Knauer et al. (2020) also modified the DR techniques to fit their study, but maintained the core of DR, similar to the way this study modified the DR techniques to be administered

electronically. They recruited children between the ages of 2;0 and 6;0 years old, which is a close comparison to the 2;0 to 5;0 for this study. They also chose to use culturally appropriate books for the study, by teaming with a publisher (local to their study site) to produce books in the local languages. The Knauer et al. (2020) study highlights how the simple practice of reading gets overlooked due to circumstance, such as low literacy levels amongst caregivers, and how DR allows one to overcome these obstacles in a cost-effective way that does not require fully literate caregivers.

2.3.1 Dialogic reading and SES

Zevenbergen and Whitehurst (2003), amongst others, have shown that introducing adults from LSES communities to DR techniques (that they can use with their preschool aged children, 3-5 years old) has helped to improve the vocabulary and language development of the children, in both face-to-face and e-delivered interventions (Zevenbergen and Whitehurst, 2003).

Durwin, Carroll and Moore's (2016) DR study took first grade participants (from LSES communities), using research assistants to deliver the intervention at schools, from below average to within average range (of the national grade-level norms of academic marks).

Arnold *et al.* (1994) found that when doing DR in a classroom setting, if there were only one or two teachers (or teaching assistants) present in the classroom during the sessions, it was a challenge, as the DR groups would be small and resulted in the remainder of the class either being unattended or having only one teacher to watch over them. Given that in the South African context classes tend to be large, one teacher per class would not be enough to successfully implement a DR programme (Marais, 2016). In private settings, when it is just parent and child, the reading is usually one-on-one or two-on-one, whereas in a classroom setting, the group sizes tend to be larger; for example, in the study of Whitehurst *et al.* (1994), the caregivers at a day-care read to the children in groups of five. Without recruiting assistants or help, one teacher would struggle to cope with a whole class while doing group DR sessions. This is why, for the current study, the choice was made to focus on parent-child reading, which would allow for more one/two-on-one time, in a way that there is little classroom type distraction and the adult would not be over burdened with the amount of reading to be done while having to supervise many other children.

2.3.2 Dialogic reading in South Africa

DR has been used, with success, to improve attention (Vally *et al.*, 2014), vocabulary (Zevenbergen and Whitehurst, 2003) and parent-child relationships (Ganotice *et al.*, 2016), in both LSES and MSES (or higher) communities, with children of various ages, including pre-schoolers. There is one study (that of Vally *et al.*, 2014) done in a South African LSES community, namely Khayelitsha in the Western Cape Province. The study investigated the language and attention of the children before, during and after a DR programme for which the parents received face-to-face training (Vally *et al.*, 2014). The conclusion of this study is that this type of programme is beneficial to children in LSES communities in terms of the child's attention (more so) and lexical production and comprehension (less so) (Vally *et al.*, 2014).

Abbott and Wills (2012) state that when increased numbers of children do not meet the national grade-level targets, this causes the amount of intervention needed to exceed the school's ability to provide the help needed. Many South African schools are severely underfunded and struggle to provide the necessary material, staff and programmes to help at-risk children with their literacy (Meyer and Warnich, 2010). Implementing a DR in the preschool years could assist in reducing the number of children requiring additional educational support once formal literacy instruction commences.

This review of literature highlighted the need for more DR interventions that are time and cost efficient and created for a low-SES audience in order to aid in breaking the effect of low SES on children's language development.

2.4 E-delivered programmes for language stimulation

This review explores e-delivered programmes that are specifically used for language stimulation and the different aspects pertinent to this study. It reviews what e-delivered programmes are, the different types of e-delivered interventions, the influence of technological advancements on reading as a child, as well as how the combination of books and technology could bridge the gap created by increased screen-time.

An ‘e-delivered’ programme, is one that is delivered electronically, either via multimedia, applications, games, or television shows, for example, the games on a smartphone, PlayStation games, or children’s television shows.

Zeijl, Crone, Wiefferink, Keuzenkamp and Reijneveld (2005) state that the majority of children spend a lot of time (but does not specified the exact amount of time) engaging with electronic devices, such as watching TV, playing computer games, or playing games on a phone or tablet. They also state that the activity of reading books is being replaced by screen-time. (Zeijl *et al.*, 2005). However, Smeets and Bus (2014:2) investigated the use of interactive animated e-books for vocabulary learning. Their study was

designed to examine whether both additional multimedia and interactive features benefit language skills and story comprehension and whether effects accumulate, thereby making the animated e-book enhanced with interactive features the best alternative.

According to the Smeets and Bus (2014) study, ‘The interactive animated e-book as a word learning device for kindergarteners’, there were significant increases in the children’s (target) vocabulary after reading with an interactive animated e-book, with the least effect coming from reading a static e-book. This shows that combining screen time with reading, by creating e-books that include moving pictures, voices and sounds, interactive labelling, and background music, rather than static pictures, helps a child learn the vocabulary they would have missed out on while having ‘normal’ screen-time rather than reading print books, and possibly has an even stronger effect than the print books on vocabulary acquisition (Smeets and Bus, 2014). A study that Verhallen and Bus (2011) on eye-tracking during reading illustrated print books showed that children visibly follow the details in illustrations more often and longer when they are highlighted in the text, than elements that are not mentioned in the text. Brookshire, Scharff and Moses (2002) did a study on the influence of illustrations on children’s preferences and comprehension of story books and found that children performed better when reading books that incorporated both text and illustrations. This would suggest that reading books with illustrations aid vocabulary acquisition, and that highlighting and amplifying those illustrations by making them interactive would aid vocabulary acquisition even more.

According to Hayes, Kelly and Mandel (1986), if an illustrated story is also narrated out loud to children of 3-6 years old, it will improve the child’s recall of the story (their ability to tell the story back from memory). From this, one could conclude that having a parent/caregiver

read an illustrated e-book to the child, that gives the child the option to interact with the book and ask questions or have their questions answered, which could improve both narrative skills (such as recall) and vocabulary.

Beschorner (2013:82) investigated the “contextual factors that influence the outcomes of face-to-face and online parent education as well as the effectiveness of the parent education program in encouraging dialogic reading behaviors”, looking at parents with children of 3-5 years of age at the time of the study. The author found that there was no significant difference between the face-to-face and online programmes, and that the online group was influenced by the participant’s online access, the design of the programme and the delivery of the content.

There are many different types of e-delivered programmes, such as games on phones, television programmes and, as mentioned above, animated e-books. For this study, I utilised static illustrated e-books that the parent/caregiver read to the child, supplemented by the DR techniques of asking questions and asking the child to recall the story.

Zevenbergen and Whitehurst (2003) utilised instructional videos to train the parents in the use of the DR techniques. They found that it was more cost effective for participants to be trained using instructional videos than for one-on-one instruction from a trainer, which is another reason the choice was made to create instructional videos for the purpose of the current study, namely to be as cost effective as possible for both the participants and myself. Arnold *et al.* (1994) found that parents who were provided with instructional videos for the purposes of training them in DR techniques, aided children of 2 years old in increasing their receptive and expressive vocabulary more so than if they received face-to-face training individually. They posited that the advantage of instructional videos was due to the parent-child examples utilised to showcase the different techniques (Arnold *et al.*, 1994).

E-delivered programmes have been used to promote word learning and story comprehension (as seen in Smeets and Bus’s 2012 study), receptive and expressive vocabularies (as seen in Verhallen and Bus’s 2010 study), as well as increasing the parent-child conversation which in turn helps decrease the word gap seen in school age children from LSES communities (as seen in the Troseth, Strouse, Flores, Stuckelman, and Johnson (2019) study). The current study was designed to promote vocabulary comprehension and production as well as narrative skills through an e-delivered DR programme. In the next chapter, the methodology of the study is discussed in more detail.

This review of literature highlighted the need for child language development interventions to keep up with technology and how hybrid-type interventions can be used in low-SES communities to help bridge the gap in child language development.

Overall, the literature review explored the pertinent aspects raised in the research questions in such a way that it showed how an e-delivered DR intervention is the type of intervention that could potentially be delivered in a low-SES community, in such a way that promotes reading and therefore language development in children aged 2;0 to 5;0 years old.

Chapter 3: Methodology

3.1 Introduction to Methodology

The methodology chapter will be highlighting the ethical considerations taken during this study, the participants, data collection methods, and the manner in which the data was analysed, and the interpretation thereof. In short, a 4-week DR programme was delivered via WhatsApp to parent-preschooler dyads. Training material for each week as well as the book for each week was sent via WhatsApp to parents at the beginning of each week, with one or two of the CROWD techniques (Whitehurst, 2002) explained and demonstrated in a video. The book of the week had to be read, using DR, once each weekday. A control group also read the book, but without using DR techniques. The preschoolers' vocabulary and story-retelling skills were assessed before and directly after the programme. Parents who followed the programme were also invited to take part in a focus group discussion afterwards, during which they could give feedback on the programme.

3.2 Ethical considerations

For this study, ethical clearance from the Stellenbosch University REC: Social, Behavioural and Education Research (SBER), was applied for on the 12th February 2020, but the application was returned for amendment on the 3rd April due to the effect of the Covid-19 pandemic (ban on all inter-person interactions) and the fall out of that (not being able to recruit participants in-person, or do face-to-face data collection). The original proposal had to be altered so that it would now take the restrictions on in-person (face-to-face) data collection into consideration that Stellenbosch University put in place due to the Covid-19 pandemic. Ethical clearance was applied for again on the 4th July 2020 after making the necessary changes to the research proposal and ethical clearance was received on the 21st July 2020.

In the participant recruiting process, to limit any cold-calling or infringement of privacy, invitations (see Appendix D) to participants were sent out via several platforms and it was left up to the potential participants to get into contact if they were interested. Both parental consent and child assent was procured from the participants before the programme started. (See Appendix E for the parental informed consent form and Appendix F for the child assent form.)

The confidentiality of all participants was protected as far as possible. On the consent forms, full names needed to be used, but for data storage and analysis purposes codenames are used.

Participants were asked to sign a WhatsApp confidentiality agreement (see Appendix G) and to utilise the privacy settings on WhatsApp which I explained in the WhatsApp confidentiality agreement. The agreement stated that they would not save or use any personal information seen or visible on the WhatsApp group for anything other than the purposes of the study.

All data created, procured or saved throughout this study was saved onto a secure hard drive or on a password protected Google account (for the forms). All forms and questionnaire were created using the Google forms and Google slides application linked to my personal Google account, which means that the responses are all online and password protected.

Due to the nature of some of the questions in the background questionnaire (see Appendix H), there were referrals available for any participant who experienced any question as causing emotional or mental discomfort and needed counselling/support. The details of the process of these referrals are found in the consent form in Appendix E.

3.3 Participants

To decide on an age group of children to utilise in this study, certain factors had to be considered: The effect that a ‘word spurt’, seen at the age of 2 years old (Dapretto and Bjork, 2000:635; see section 2.1), could have on the study, and the influence of formal instruction on a child when they reach school age, as they have started learning letter and word recognition and sounds to build on for their reading skills, which would influence how the child learns new vocabulary and narrative skills. This is why for this study children were included who had not yet reached the age of formal instruction in South Africa, the youngest being 2;8 and the oldest being 5;6 years old at the time of the programme. There were 13 girls and 7 boys who participated. The parent-child dyads were from self-identified MSES communities and were all predominantly English first language speakers.

Adult participants had to meet the following criteria:

- Be the caregiver to a child of 3 to 5 years old
- Identify as living in a MSES community
- Raise the child in exclusively or predominantly English

The recruitment process started with sending out the invitation and a pdf flyer to personal contacts, which only yielded two responses. Friends and family were then asked to share the invitation and flyer with anyone they may know who might be interested in the study. Once that avenue of possible participants had been depleted, the invitation and flyer were put up on Facebook groups (such as a local residential estate's community group). The remainder of the participants came from this last line of recruiting. Once a person got into contact showing their interest, the links to the information document (see Appendix I) were emailed to them, so that they could get a better understanding of the study and what would be asked of them as a participant. This included the screening questionnaire (see Appendix J), which was used to determine whether they met the study requirements, before the next round of forms were sent out (to be discussed below).

Once their response on the screening questionnaire had been received, and they met the requirements, the link to the background questionnaire would be emailed to them. This included a question which determined the Living Standards measure, to yield a score reflecting their living standards, which served as a proxy for SES in this study. The Living Standards Measure (LSM) is widely used within South Africa as it is a way to segment the South African population without using the typical variables such as race, gender or age, but rather according to their standard of living (LSM Calculator - Eighty20, 2020). 10-high is the highest possible score and 1-low is the lowest (following the increase of '1-low', '1-high', '2-low', '2-high' and so on), and for this study they had to receive a score of 8-high or above. All participants who wanted to take part in the study qualified based on their LSM score. Once the background questionnaire response had been obtained, the links to the informed consent and assent forms were sent. Once they completed the consent and assent forms, the link to the WhatsApp confidentiality agreement was emailed to them and they were asked for their phone number, so they could be added to their relevant WhatsApp group. Once the WhatsApp groups were formed, the pre-programme assessments of the child participants commenced, which happened over 4 days, with the majority of the participants starting the programme on the Monday, and two starting on the Tuesday, using the first Saturday to catch up and get in sync with the rest of the group.

In total, 38 interested parents got into contact, with 21 following through to the end of the recruitment process, and 20 completing the programme. There were two groups, the experimental (DR) and the control group. Initially, the aim was to recruit 45 parent-child dyads, to put into four groups, namely the experimental group (15 dyads), and three control groups of

10 dyads each (a non-DR reading group, a non-reading parent-preschooler activity group, and a non-activity group). However, due to time constraints, limited participant pools, and the impact of the Covid-19 pandemic on the recruitment process (specifically not being able to recruit face-to-face, e.g. at information evenings held at day-care centres), it was not possible to recruit a sufficient number of participants to do so. The reason for wanting the four groups was to control for the influence of traditional reading to the child on the child's vocabulary, traditional play activity on the child's vocabulary and regular day to day vocabulary learning. There were to be five more in the experimental group to account for any attrition in participant numbers that may have occurred.

The final groups were as follows:⁴

- 1) Experimental group = DR programme (11 dyads of which 10 completed the programme, 1 boy and 9 girls, all completed the programme with their mothers)
- 2) Control 1 = Traditional reading programme (10 dyads, 6 boys and 4 girls, all but one completed the programme with their mothers, the other completed it with her father)

The groups were assigned by unilaterally filling up the first 10 spaces of the experimental group as the participants joined the study, and once that group reached 10 dyads, the other participants were assigned to the control group, with any extra participants over the control group's 10 being put into the experimental group. Participant characteristics are summarised in Table 1.

Table 1: Participant characteristics

Participant code	Group	Sex (M/F)	Age (years;months)	Geographical location	Adult in dyad
DR1-M5	DR	M	5;6	Somerset West	Mother
DR2-F5	DR	F	5;1	Cape Town	Mother
DR3-F4	DR	F	4;2	Yzerfontein	Mother
DR4-F4	DR	F	4;6	Cape Town	Mother
DR6-F3	DR	F	3;9	Port Elizabeth	Mother
DR7-F3	DR	F	3;3	Johannesburg	Mother

⁴ Numerous people got into contact after the programme had already started, stating their interest in the study and that they would have been willing to participate. If they had been in contact earlier, the study would have had a minimum of 15 dyads in the experimental group and possibly the start of the second control group. When asked if they would still be interested in the programme material, and they said 'yes' I emailed it or sent it via WhatsApp to them.

DR8-F4	DR	F	4;9	Johannesburg	Mother
DR9-F2	DR	F	2;8	Johannesburg	Mother
DR10-F4	DR	F	4;5	Knysna	Mother
DR11-F3	DR	F	3;7	Stellenbosch	Mother
TR1-M5	Control	M	5;3	Somerset West	Mother
TR2-F4	Control	F	4;1	Johannesburg	Father
TR3-M2	Control	M	2;10	Johannesburg	Mother
TR4-M3	Control	M	3;3	Paarl	Mother
TR5-F3	Control	F	3;2	Somerset West	Mother
TR6-F3	Control	F	3;1	Paarl	Mother
TR7-M4	Control	M	4;0	Johannesburg	Mother
TR8-M5	Control	M	5;2	Cape Town	Mother
TR9-F4	Control	F	4;1	Cape Town	Mother
TR10-M4	Control	M	4;0	Stellenbosch	Mother

*Note: the code names of the participants are made up of the group they are in (DR/TR), their participant number, whether they are Male or Female (M/F) and their age (year).

3.4 Programme structure

The experimental group was asked to do the DR techniques over 4 weeks, one technique a week for the first 3-weeks, and then two techniques in the fourth week. The control group was asked to just read the books to their child with as little interaction or conversation about the book as possible.

At the beginning of each week, the book and the record sheet link (which was to gauge the parents' opinion on how well the reading session went, how relevant the book was, and how the child engaged with the material – see Appendix K) were sent out to the control group, and the book, record sheet link and instructional video (discussed in section 3.4.2.2), to the experimental group, for that week. The parents of the DR group were asked to voice record and send the first 10 minutes of their first reading session of each week via WhatsApp so that that feedback could be given about whether they were on the right track in terms of how they applied the CROWD technique(s) of the week.

The weeks were broken up as shown in Table 2:

Table 2: A breakdown of the books and techniques read and used throughout the 4-week programme

Week	Book*	Technique
1	“A beautiful day”	C= Completion
2	“Shongololo’s Shoes”	R = Recall
3	“Ann-nem-oh-nee finds adventure”	O = Open-ended questions
4	“Where’s that cat?”	W+D = Wh- questions and Distancing

Note: *Details on the books are provided in section 3.4.2.2

3.5 Research Design

This research followed a mixed methods research design, which entailed both qualitative and quantitative research approaches and data collection. There were digital forms for the carers to complete, which provided demographic information (introductory form) and observations (of the carers - daily). There were pre- and post-programme assessments done via video call, with the participants completing the assessments verbally and by pointing. Finally, there were focus group discussions with the carers that provided extra feedback on the programme. The results from the assessments are quantitative and were analysed by putting them into graphs to make comparisons and to visualise the participant improvement. The focus group discussions provided qualitative results that were analysed thematically. The reason for including both quantitative and qualitative methods was to provide the insight into how the programme fared (i.e., into the actual assessment results) as well as how the programme was received by the carers facilitating the programme, in order to determine whether or not the programme and the delivery thereof was suitable for a low-SES community.

3.6 Data collection

3.6.1 Pre-testing

For the pre-testing, the following was assessed:

- 1) Vocabulary comprehension
- 2) Vocabulary production
- 3) Narrative skills – retelling

To test for pre-programme vocabulary comprehension, an online assessment was created for this study that was delivered over Zoom. Twenty words were selected from the four books utilised in the programme and for each of these target words found a creative commons image of it as well as three creative commons images that were somehow (semantically and/or phonetically) related to the target word and put the four images on a PowerPoint slide, as seen in Figure 1. This was done in order to avoid the general maturation of vocabulary that children experience, and therefore is why the Peabody Picture Vocabulary Test was not used.



Figure 1: Screenshot of one page from the vocabulary comprehension task

This was done for each of the 20 target words. This PowerPoint was then shown to the child over Zoom and asked them to point on their screen to the target word that was named. Due to the nature of the online Zoom call, it required the parent to tell me if the child pointed to the ‘top left/right or bottom left/right’ image. (The parents were deliberately asked to refrain from labelling the image to which the child pointed so as to avoid the child knowing whether or not the response was correct.) The order of presentation was not randomised for each child. The child was video recorded pointing, and the parents were recorded while they relayed where the children were pointing on the screen, so as to confirm the child’s response in order to easily record the results.

For all participants, vocabulary comprehension was assessed before vocabulary production. To assess vocabulary production, another 20 words were selected from the 4 books that were used during the programme and a creative commons image of each word was found. These images were put individually on PowerPoint slides and shown to the child via their Zoom screen. The children were asked to tell me what they thought the image showed. For a couple of the images, arrows were used to highlight certain parts of the image. This was done to make the target word clearer, in which case the prompt was used “what do the arrows point to?”; see Figure 2 as an example for which the target word was ‘fins’. As for the vocabulary comprehension task, the order of presentation was not randomised for each child.

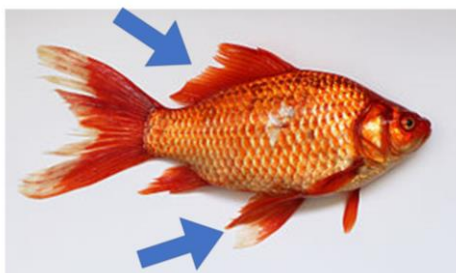


Figure 2: Screenshot of an example of using arrows to elicit the target word

Finally, the third part of the pre-testing was the altered Language Impairment Testing in Multilingual Settings: Multilingual Assessment Instrument for Narratives the English version (Gagarina *et al.*, 2012) (later referred to as LITMUS-MAIN: English). The retell version was used as it was the easiest to do over a video call on Zoom. For this assessment to be delivered over Zoom, however, an online version had to be created which could be shared over a Zoom call, as the original version required utilising two envelopes that represented the two different stories the child had to choose between, as well as the child opening the cut out story board 2 pictures at a time. Therefore, two different coloured boxes (see Figure 3) were utilised to represent the two different stories, which replaced the physical envelope choice in the original assessment:



Figure 3: Screenshot of the envelope proxy used in the online version of the LITMUS-MAIN

Once the child had chosen a colour – blue being the Cat story and yellow being the Dog story, the story board was shown to them in full, then instead of them unfolding the physical copy of the story board 2 pictures at a time, 2 pictures were shown to them at a time on their screen on PowerPoint. They first retold Figure 4, followed by Figure 5 and lastly Figure 6. Other than these alterations, the assessment was completed as specified in the LITMUS-MAIN guidelines/protocol (Gagarina *et al.*, 2015).

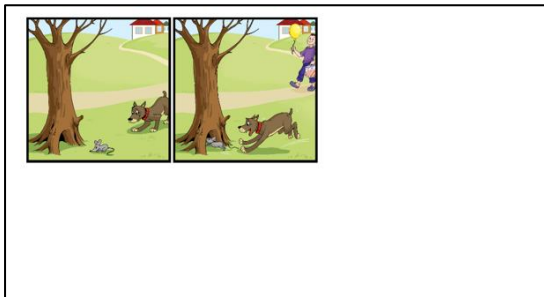


Figure 4: Screenshot of the 1st two images the child sees when doing the story re-tell

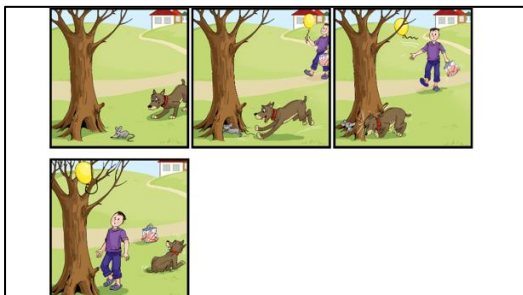


Figure 5: Screenshot of the 2nd two image the child sees when doing the story re-tell



Figure 6: Screenshot of the final set of images the child sees when doing the story re-tell

All three of these assessments were done in the stated order in one Zoom call per participant that lasted between 15-30 minutes, depending on how long the introduction took and how quickly the child went through the assessments. The assessment portion of the video call was recorded, with the parent's written and verbal permission, for later transcription and analysis.

The assessment material was piloted on five adults who were highly proficient in English, to determine the clarity of the images (i.e. whether the target responses could be elicited with the images used) as well as the delivery of the assessments over Zoom. The PowerPoint slides of the vocabulary assessments was emailed to the adults and they were asked to name all the images, the same was done with a 6 year old, English speaking girl in order to see how the assessment was for the younger ages. For the LITMUS-MAIN: English the same five adults were called on Zoom and the assessment was done as if it were with the child. The outcome of the piloting, resulted in changing a few images to be clearer, as well as having the parent identify where the child pointed on the screen, as from the piloting it was not clear where someone pointed to on the screen.

3.6.2 Programme

3.6.2.1 Layout

The programme portion of this study was 4 weeks in total, which involved the parents/caregivers reading to their child for 10 minutes a day from Monday to Friday. They were asked to read the book as many times as they liked within the 10 minutes (which served as a baseline for the reading time, meaning if they wanted to read more they could, but not less). For the first 10-minute session of each week, they were asked to voice record their reading and send to me so that I could listen to it and give them feedback. This was not for data collection purposes; it was to ensure that the adult participants understood the instructional videos and were implementing the CROWD techniques correctly. Each week, materials were sent out to the two groups. On the Monday of Week 1, the group introduction video, Book 1 and the link to the record sheet were sent out on both of the WhatsApp groups (and the experimental group also received instructional Video 1), followed by daily reminders on Days 2 to 5. Beschorner (2013) suggested that having interventions that utilise weekly or bi-weekly meetings (between the participants and researchers), would encourage commitment and

engagement, as well as provide the opportunity for participants to ask questions when needed, which are tools used in this current study through the use of daily reminders/contact via WhatsApp. On the Monday of Week 2, the instructional video 2, book 2 and the link to the record sheet were posted on Group 1's WhatsApp group, followed by daily reminders on days 2-5. Group 2's WhatsApp group received book 2 and the link to the record sheet, followed by daily reminders for days 2-5. The same occurred in weeks 3 and 4.

3.6.2.2 Materials

For the distribution of materials utilised in the programme, the application WhatsApp was used. WhatsApp is a free application that is a substitute for text messaging, it supports messaging and phone calls plus video calls, as well as sending and receiving photos, videos, voice notes, documents and locations (WhatsApp.com, 2020). This programme utilised the WhatsApp feature 'admin-controlled groups', which allowed for the researcher to create platforms to distribute messages, documents and materials to all adult participants, without them being able to communicate on the group. This allowed for heightened privacy for participants and made it easier to distribute material as it only had to be sent out on the groups, not individually.

The programme utilised 4 books from Bookdash:

- A beautiful day (Bregin, Pelzl, and Vawda, 2015) - <https://bookdash.org/books/a-beautiful-day-by-lindy-pelzl-elana-bregin-and-raeesah-vawda/> (original English version)
- Shongololo's shoes (L'Ange, Browne, Kleyn and Loter, 2016) - <https://bookdash.org/books/shongololos-shoes-marteli-kleyn-megan-loter-jacqui-lange/> (original English version)
- Ann-nem-oh-nee finds adventure (Awerbuck, Bosworth, Nel and Griffiths, 2017) - <https://bookdash.org/books/ann-nem-oh-nee-finds-adventure-by-jessica-bosworth-smith-matthew-griffiths-and-lauren-nel/> (original English version)
- Where's that cat? (Wilson, de Klerk and Ferreira, 2020) - <https://bookdash.org/books/wheres-that-cat-sam-wilson-thea-nicole-de-klerk-chenele-ferreira-louis-greenberg/> (original wordless version)

Bookdash is a South African organisation that has brought together volunteer writers and illustrators to create freely translatable, printable and distributable African storybooks (Book Dash | New, African storybooks by volunteer creatives, 2020). The books on their site are free, adaptable, come in numerous languages and can be printed and distributed (free of cost). However, the books were altered for this study by adding text to amplify the vocabulary that could be assessed. The additional text was added in a way so it would affect the story line as little as possible, see Table 3.

Table 3: Showing the original text versus the added text of one example of the stories used in the programme

Original text	Added text in BOLD
Ann-nem-oh-nee lived in the ocean. All day long she clung to the same slippery rock with her single big foot. Her tiny tentacles caught tasty treats.	Ann-nem-oh-nee lived in the ocean. All day long she clung to the same slippery rock with her single big foot. Her tiny tentacles caught tasty treats. Her tentacles are a lot smaller than an Octopus's but with their sting they are powerful.
On days when she felt cross, her stinging tentacles kept the other creatures away.	<i>Nothing added</i>
But today her rock felt lonely.	But today her rock felt lonely. Even though there were Jellyfish, Octopus, Star fish, Eels and more swimming and resting on the nearby rocks.
"I have no fins, I have no feet, I am different to every other creature"	"I have no fins, so I can't swim with the fish , I have no feet, to crawl with the crabs , I am different to every other creature"
"Even that hermit crab is off having adventures!" "Save me! That fish wants to pluck me out of my shell!"	<i>Nothing added</i>
Ann-nem-oh-nee whipped up her stinging tentacles and hid the hermit underneath them. "Go away, you big bully!" The big fish bared his teeth, but was afraid of being stung.	<i>Nothing added</i>

He gave up and swam away with a cheeky flick of his tail. “That was close!” said the crab. “Is it safe now?” “You can come out, Crab. What’s your name?” “Herman. I’m a hermit, but I think I need a bodyguard. I wish I was as brave as you!”	<i>Nothing added</i>
“I’m Ann-nem-oh-nee. I wish I had amazing adventures like you.” “But why don’t you?” He asked. “I’m stuck to my rock. And I don’t have legs!” She replied. “Well, I don’t have stings, but I do have an idea!”	<i>Nothing added</i>
Herman took Ann-nem-oh-nee by the tentacle and danced around her, pulling silly faces. First Ann-nem-oh-nee snorted, and then she giggled – and then she laughed so hard she popped right off her rock.	<i>Nothing added</i>
Herman gently picked her up and settled her on his shell. “Are you ready? I feel an adventure coming on.” He said.	Herman gently picked her up and settled her on his shell, giving her a piggy-back . “Are you ready? I feel an adventure coming on.” He said.
Ann-nem-oh-nee adventures all over the ocean, catching tasty treats. Now she only uses her stinging tentacles to keep the nasty fish away from Herman.	<i>Nothing added</i>
And she never, ever feels lonely.	<i>Nothing added</i>

For the experimental group, the instructional video for the technique to be used that week was sent out. The videos were a combination of me talking, me reading with a child showcasing the technique, and explanations of the technique. The videos were made to be as data conservative as possible without diminishing the quality of the video. For the privacy of the child being read to in the videos, the camera was positioned behind us, as if it was looking over our shoulder while we read. This meant that the child’s face was not visible.

The participants were asked to complete a record sheet after each 10-minute session, so that their and their child's level of engagement with the book and the sessions could be gauged. The record sheet was created on Google forms; therefore, it was easily accessible via a link sent on the WhatsApp group. This record sheet was also utilised as a way to keep track of whether or not participants completed the reading sessions each day, as an email notification was received each time a record sheet was submitted. At the end of each week I would check who had completed all the reading sessions, and if anyone had not, a reminder would be sent to them and they would be asked if they wanted to use the weekend to catch up, which all of them did if necessary.

Moore, Durwin and Carroll (2018) made two improvements to their 2016 DR programme, which were to use a standard set of books and focus on vocabulary. Both of these improvements showed a significant impact on the programme's results. For the current study, both of these aspects were incorporated, through using the same set of four books for all participants and by doing assessments that focused on vocabulary. They also used the 'Synonym and Antonym subtests of The Word Test-3 (WT3)' as their measure of vocabulary, whereas in this study a self-devised vocabulary assessment, that focused on vocabulary comprehension and production, was utilised. Moore, Durwin and Carroll (2018:8) also utilised reading sessions of 10-15 minutes long, and the programme was free and done in 12 weeks, which they stated could be beneficial to LSES schools "to efficiently remediate children's reading problems".

3.6.2.3 Adaptations to the material used

The material used in this programme was the books and record sheets. As stated earlier, the books were adapted to incorporate more assessable vocabulary. For Week 4's book (Where's that cat?) there were no words included in the original version of the book (it was a wordless picture book), therefore the text was written for this study, following what was happening in the story and keeping to the appropriate audience age.

The record sheets were adapted after the first day, as a few of the parents got into contact saying they were not clear on how to respond to some of the questions on the record sheet, as each question had numerous subsections. Therefore, the questions were separated into individual questions to make it easier for the parents.

3.6.3 Post- testing

Once the 4-week programme was finished, post-programme assessments on Zoom were scheduled, and the final focus group discussions were arranged on two separate days so as to allow as many of the parents to join as possible.

The post-testing incorporated the same procedure as the pre-testing and was followed by the focus group discussions with the parents. Vocabulary production and comprehension, and narrative skills were assessed, specifically story structure and structural complexity, using the online vocabulary assessment and the LITMUS-MAIN: English re-tell assessment for narrative skills (adapted for online delivery) (Gagarina *et al.*, 2015), respectively. From the pre-test, it became apparent that there were three words (possible two others as well) that appeared to be too easy for the 2;8-5-year-old age group, but they were kept in the post-test, and eliminated from the data analysis. For the post-testing, however, in the LITMUS-MAIN: English, the story we did not read in the pre-test was used, so if they chose blue (Cat) during the pre-test, then we would use yellow (Dog) for the post-test. This ensured that the child was not relying on memory of the pre-test story during the post-test story retelling task.

After the completion of the programme, there were two focus group discussions. Each discussion was scheduled for a different evening, straight after the post-tests had been finished, so as to allow for as many of the parents to join as possible. All parents in the DR (experimental) group were invited to take part in the focus group discussions, which took the form of a Zoom call. Four parents participated in the first discussion and two in the second discussion. (Three parents accepted the invitation for the second focus group discussion, but only two joined.) The calls started out with an introduction of the sessions and speaking a little bit about the study. The first question was then posed verbally, I asked the participants to answer if they wanted to, but they were not obliged to answer. We discussed each question until the conversation came to a close naturally. A total of 7 questions were posed in order to prompt conversation (see Appendix L). There was also an opportunity at the end for parents to ask any questions or make any comments they still wanted to make. The session was recorded and later transcribed (see Appendix M).

The focus group discussions were brainstorming sessions and were to see whether there were aspects of the programme that should immediately be changed, before making the programme available to caregivers in less well-resourced settings.

3.6.4 Summary: Data collected

The focus group discussions rendered qualitative data on the e-delivered DR programme (analysed thematically following Braun and Clarke's (2006) steps to doing a thematic analysis), whereas the pre- and post-testing of the children rendered quantitative data. The study thus had a mixed-methods research design.

The data collected from this research was:

- Completed forms from the recruitment process.
- Child responses to the pre- and post-tests, which were analysed using clustered bar graphs and box and whisker graphs (seen in the next chapter) provide an indication as to whether or not the programme improved the vocabulary and narrative skills of the children.
- Voice recordings of the first 10-minute reading sessions of each week, to make sure the parents were on the right track when it came to the reading sessions and techniques.
- Record sheets from each reading session completed by the parent/caregiver, which contextualised the child's reading sessions individually.
- Transcription of the responses to the focus group discussions which were analysed using a thematic analysis (following Braun and Clarke's (2006) steps to doing a thematic analysis).

3.7 Scoring and data analysis

Both the pre- and the post-assessments results were analysed in the same way, individually and comparatively. For both vocabulary comprehension and production, the maximum score a child could attain was 20, including self-corrections and prompts. A prompt was given if the child said that they did not know, hesitated for a long period of time or was close to the correct answer (meaning they said something that sounds like, or was conceptually related, to the target

word). There were only 10 prompts in the pre- and post- comprehension tasks, whereas in the production there were 58, as a child might produce an incorrect response that is similar or related to the target word (meaning they said something that sounds like or was conceptually related to the target word), so a prompt was given. The LITMUS-MAIN: English assesses three different aspects; story structure, structural complexity and the number of mental state terms (however for the purposes of this study, these last-mentioned results were not used). Story structure refers to the setting, mental states, goals, attempts and outcomes in the story, so in this case, the child is assessed on how much of the story structure they can retell. Structural complexity refers to the complexity of the sentences retold by the child from the story, with children being assessed on their structures being more complex if they provide a ‘goal’, ‘action’ and ‘outcome’ for an episode in the story.

The vocabulary comprehension and production scores, as well as the story structure and structural complexity (from the LITMUS-MAIN: English), for both the DR and TR group’s results, were tabulated per participant after which clustered bar-graphs were drawn. The mean, Q1, Q2, Q3 and IQR (Quartile 1 = is the median of a set of data points to the left of the median in an ordered list, Quartile 2 = is the median of a group of data points, Quartile 3 = is the median of a set of data points to the right of the median in an ordered list, and IQR = the interquartile range, which is the distance between the first quartile (Q1), and the third quartile (Q3)), were calculated for all sets of data. Box plots were created in order to show the difference between the groups in terms of and pre- and post-test scores.

For the focus group discussions, a thematic analysis was done that identified five main themes. The following steps were taken, based on what Braun and Clarke (2006) outline: Firstly, I transcribed the two discussions in order to familiarise myself with the data, and then I grouped the comments from the two discussions so the answers to each prompt question were together. Secondly, I went through the answers that the participants provided to each question, noting down the initial ideas that occurred, followed by reviewing the notes and identifying the ideas that were related and finding the connection between these repeated ideas. Thirdly, themes were identified by collating the recurring ideas from the previous step. Fourthly, themes were described and named, and quotations that illustrated the theme were extracted from the analyses. Lastly, the analyses that was written up, “telling the story” extracted from the analyses. Identified themes were then looked at in order to determine the pros and cons of the programme, as well as what could be done to improve it, and the link to the research questions and literature.

Finally, four parent-preschooler dyads from the DR group were selected as case studies, that highlight aspects of the programme and illustrate the results of the study. The case study descriptions were provided in order to contextualise the results of the study.

Chapter 4: Results and discussion

4.1 Introduction

This chapter includes an analysis of the data collected throughout the DR intervention study and a discussion of the results. It will include the results from the pre- and post-tests from both the experimental (Dialogic Reading) and control (Traditional Reading) groups that were obtained using the vocabulary assessment of production and comprehension and the LITMUS-MAIN: English, focusing on the story structure and structural complexity aspects. The influence of DR on the vocabulary and narrative skills was investigated in this study. The pre- and post-test results have been tabulated and put into graphs to compare the results of the individual participants and make group comparisons (see below). Other than comparing the raw scores of the individual participants, a thematic analysis was conducted of the focus group discussions held with some of the parents from the experimental group. The presentation of the thematic analysis will be followed by four case studies showcasing participants who highlight the findings of the study.

4.2 Results from vocabulary comprehension tests

4.2.1 Vocabulary comprehension DR group

Figure 7 shows the individual scores out of 20 for the DR group participants on the vocabulary comprehension pre- and post-assessment. Overall, eight of the 10 participants' scores improved and the other two remained the same in the post-test as they were in the pre-test. Both participants who had no change in the post-test (DR1-M5 and DR3-F4), also had the highest scores for the pre-intervention assessment, 19 and 18 respectively. There were four participants whose scores increased by 5 in the post test, and two whose increased by 3. One participant's score increasing by 6, which is the largest score increase in the DR group, and one participant's score only increased by 1. Even without the prompts, participant DR8-F4 would have still improved by 2, participant DR9-F2 would have still improved by 3, and participant DR10-F4 would have still improved by 7.

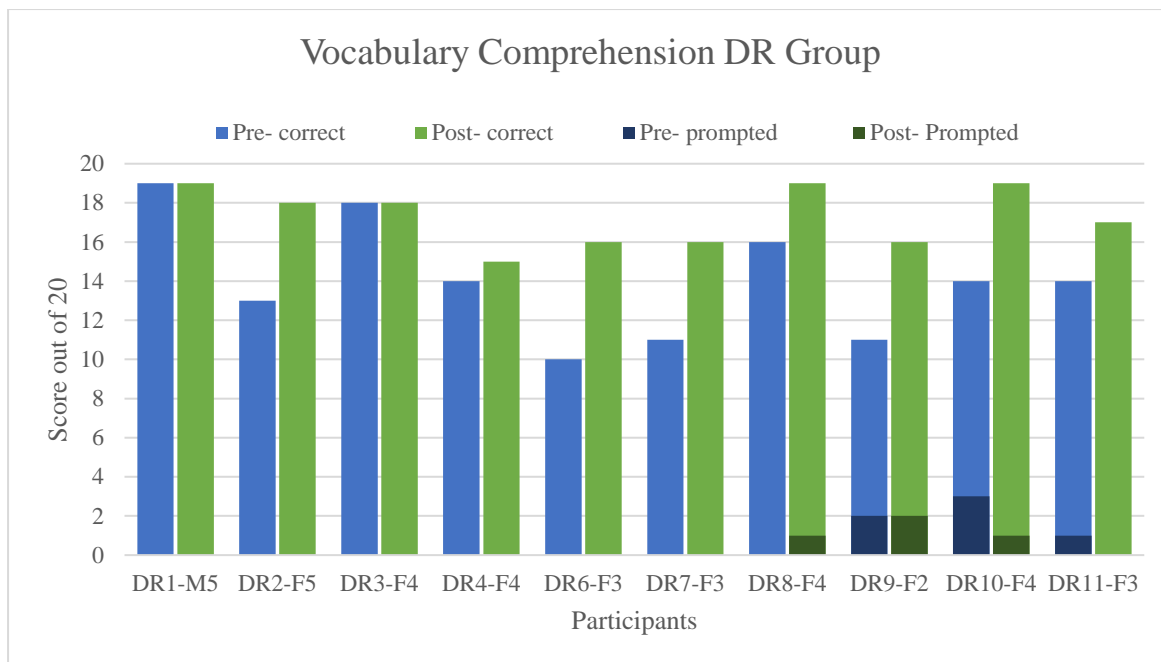


Figure 7: shows a clustered bar graph of the vocabulary comprehension scores for the DR group's pre- and post-tests

From Figure 7 it is clear that most participants in the DR group showed an increase in scores for vocabulary comprehension. Not all improved to the same extent, however.

The inter-participant differences could have been due to the age of the individual participants, as the gap between the youngest child (2;8 years) and the oldest child (5;6 years) is large (2;10 years). Participant DR1-M5 was 5;6 years old and showed a high vocabulary comprehension level in the pre-test already (with a score of 19/20), whereas participant DR6-F3 was 3;9 years old and showed the lowest pre-test score (10/20), but also showed the most improvement. However, participants DR2-F5 (5;1 years), DR7-F3 (3;3 years), DR9-F2 (2;8 years) and DR10-F4 (4;5 years), showed the next highest improvement (all improving by 5 points), and had a varied age range. If this study had had more participants it might have been possible to determine if the age had an influence on the extent to which post-test scores improved, resulting in being able to fine-tune the study to cater to the ages more appropriately.

Another possible reason for the increase in post-test results for some of the participants could be that those participants had not had exposure to some of the target words used in the assessment, which would explain why their scores increased more than others': They were being exposed to new vocabulary during the study whereas some of the other participants were not. For example, participant DR1-M5 already had a very good understanding of the target

words in the assessment (with a score of 19/20), which left little room for an increase in score from pre- to post-test. This participant is also being home-schooled, which could influence the amount of words and concepts he is exposed to at an earlier stage than his similarly aged peers, compared to other participants who are at a regular day-care or creche. Not to say that children that attend a regular day-care or creche do not receive benefits in terms of language development, as shown in Burchinal, Roberts, Riggins Jr., Zeisel, Neebe and Bryant's study (2000) that found that good quality child care was linked to better measures of cognitive development, language development and communication skills, they also found that when childcare facilities followed the recommendations for child:adult ratios, the children benefited with better language skills (Burchinal, et al., 2000).

4.2.2 Vocabulary comprehension TR group

Figure 8 shows the individual scores out of 20, for the TR group participants on the vocabulary comprehension pre- and post-intervention assessments. Overall, seven of the 10 participant's scores improved and the other three remained the same from pre- to post-test. One of the participants who had no change in the post-test (TR2-F4) already had the maximum score (20/20) in the pre-test and therefore could not improve. There were two participants whose scores increased by only 1, and another two that increased by 3. One participant increased by 2 and 7, which is the largest score increase in the TR group. Even without the prompts, all but one participant would still have shown an improvement.

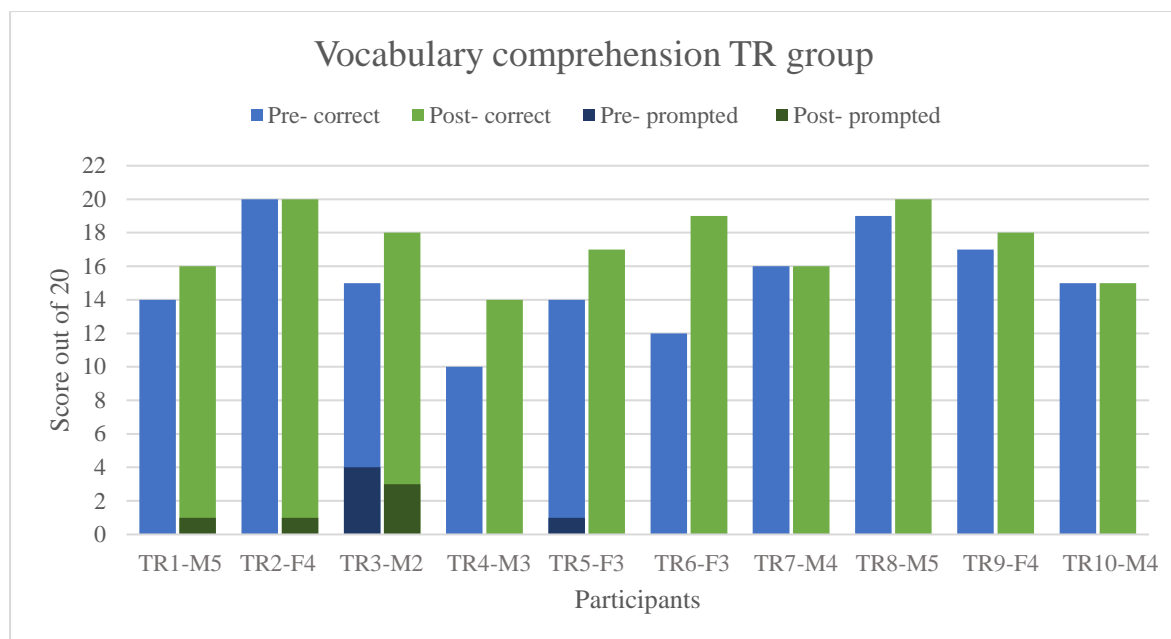


Figure 8: shows a clustered bar graph of the vocabulary comprehension scores for the TR group's pre- and post-tests

From Figure 8 it is possible to ascertain that the TR group did experience improvements in their vocabulary comprehension following the 4-week 'traditional reading' programme, which was expected considering the research stating that an adult reading to a child (not necessarily only DR) positively influences vocabulary (Mol *et al.*, 2008).

The ages of these participants varied from 2;10 years (TR3-M2) to 5;3 years (TR1-M5). Participant TR6-F3 showed the most improvement (from 12 to 19/20). She was 3;1 years old at the onset of the study. Participants TR3-M2 (2;10 years), TR4-M3 (3;3 years), and TR5-F3 (3;2 years) jointly had the second largest improvement (3/4/3 score difference respectively). This could again be related to age, as they are all close to 3 years old. Participants TR1-M5, TR4-M3, TR5-F3 and TR6-F3 had the lowest pre-test scores of the group (14, 10, 14, 12 respectively) with two of these participants (TR4-M3 and TR5-F3) having the second largest improvements (4 and 3 respectively).

4.2.3 Vocabulary comprehension: Group comparison

The box plots in Figure 9 show the pre- and post-intervention scores for the vocabulary comprehension assessments for both the DR group and TR group. Below the descriptive statistics are displayed in Table 4.

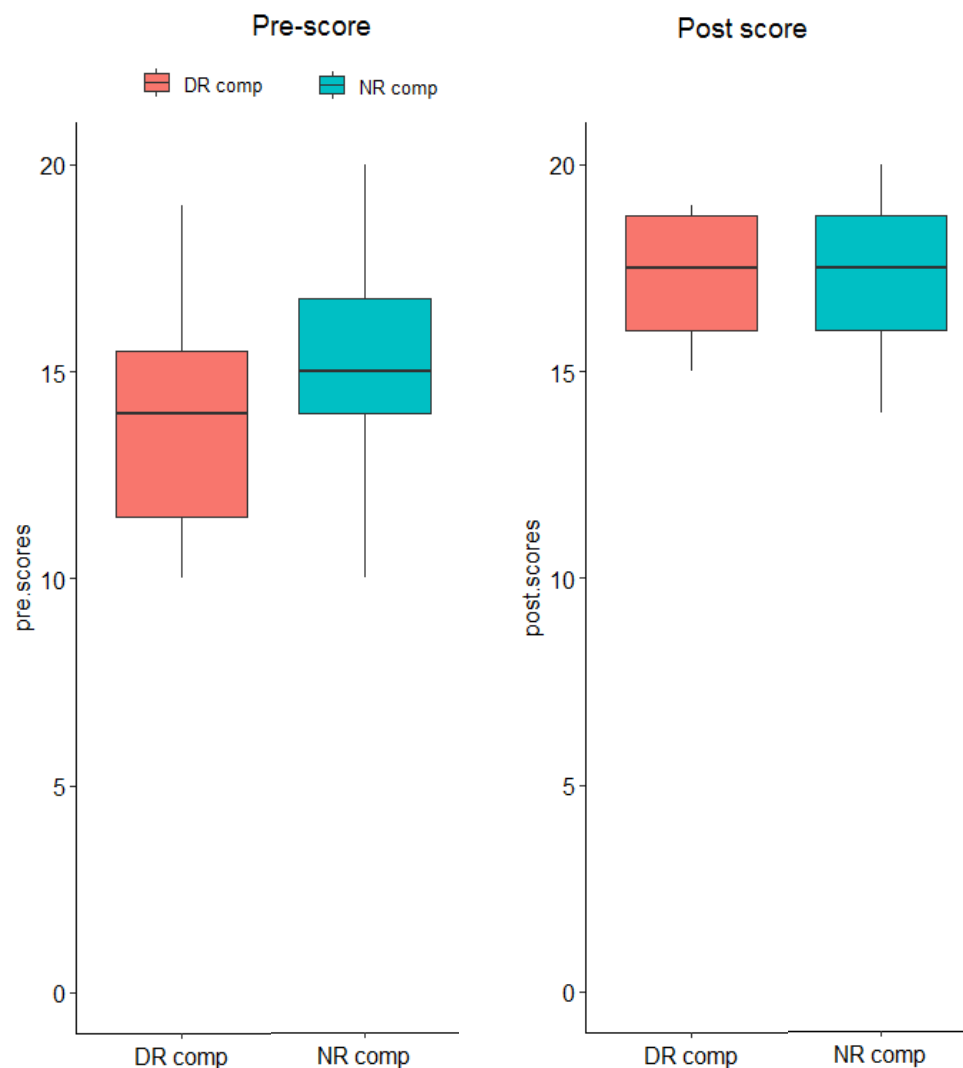


Figure 9: Box plot showing the pre-scores compared to the post-scores of the DR and TR groups

Table 4 shows that the DR group started off with a lower average pre- score for the vocabulary comprehension, 14, whereas the TR group started off with 15.2. Both groups average post-test scores for vocabulary comprehension were the same, 17.3. Which means that the average scores for the DR group increased more than the TR group by 1.2 points. The minimum scores for both groups increased post-intervention, with the DR group's lowest score being higher than the TR group. The maximum scores showed no change for both groups.

Table 4: Showing the descriptive statistics of the Vocabulary comprehension assessments for both groups, pre- and post-test

	Dialogic reading group		Traditional reading group	
	PRE	POST	PRE	POST
Minimum score	10	15	10	14
Maximum score	19	19	20	20
Mean	14	17.3	15.2	17.3
IQR (made up of Q1, median and Q3)	5.5 (Q1=11, Q3=16.5)	3 (Q1=16, Q3=19)	4 (Q1=13.5, Q3=17.5)	3.5 (Q1=15.75, Q3=19.25)

4.3 Results from vocabulary production tests

4.3.1 Vocabulary production DR group

Figure 10 shows the individual scores out of 20, for the DR group participants on the vocabulary production pre-intervention assessment. Overall, 9 of the 10 participants' scores improved while the other participant's score remained the same in the post-test, as was the case for the comprehension scores. Participant DR1-M5 had the highest pre- and post-test scores (14/20 and 20/20 respectively). The participants' scores increased by 6 in the post-test, two by 5 points, and one by 8 points. A further participant's score increased by 10, which is the highest score increase in the DR group. For the production assessment, the number of prompts increased post-intervention due to the fact that I could relate the target to what the child had heard/seen in the stories they had been reading throughout the programme, which seemed to jog their memories. The number of prompts increased for eight of the 10 participants, with one decreasing and one staying the same. Even with the prompts, all but one participant still would have improved.

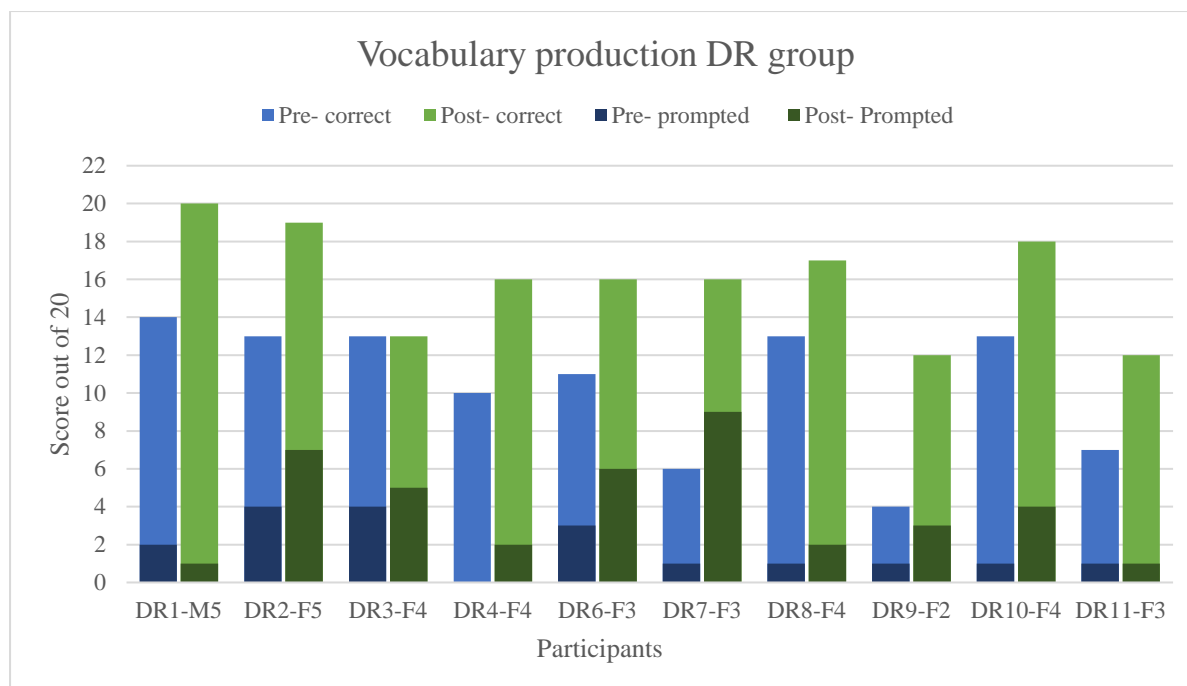


Figure 10: Clustered bar graph showing the results of the vocabulary production pre- and post-tests

From Figure 10 it is clear that the DR programme had an influence on the children's vocabulary production. The vocabulary production of eight of the DR group participants increased more compared to their vocabulary comprehension results.

Again, the age of the participants may have played a role in these results. Participant DR7-F3 was 3;3 years old at the time of the programme, and she showed the biggest improvement (10 points increase). The second biggest improvement was seen in participant DR9-F2, with an improvement of 8 points. She was 2;8 years old at the time of the programme. From this, one could again posit that the age-improvement relationship is quite varied, meaning that there is not a general increase in score improvement with an increase in age. As seen with participants DR9-F2 (2;8) and DR7-F3 (3;3) who are the youngest two participants in the DR group, both showed big improvements (of 8 and 10 points respectively). Participants DR11-F3 (3;7) and DR6-F3 (3;9) are both ever so slightly older and showed less improvement (both improving by 5 points). Whereas participants DR2-F5 (5;1) and DR4-F4 (4;6) are both some of the oldest participants and they showed big improvements (both improving by 6 points). Participants DR10-F4 (4;5) and DR8-F4 (4;9) are two of the oldest participants showing less improvement (5 and 4 points respectively). Another reason for the vocabulary production to have increased

more than the comprehension could be that the production pre-test results were lower than the pre-test results for comprehension, meaning there was a greater opportunity to improve.

However, several previous studies have shown that it is usually comprehension that precedes production, for instance the Goodwin, Fein, and Naigtes (2012) studied the comprehension and production of WH- questions in children with Autism Spectrum Disorder and typically developing children, with results that showed the comprehension preceded the production in both groups of children. In the Winitz, Sanders and Kort (1981) study, it was found that, with regards to a child's knowledge of morphological elements, comprehension preceded production. Another early study, that of Petretic and Tweney (1997) found that comprehension skills preceded production skills even in the early stage of telegraphic speech (where the children's mean length of utterance was 1.45).

4.3.2 Vocabulary production TR group

Figure 11 below shows the individual scores out of 20, for the TR group participants on the vocabulary production pre- and post-intervention assessments. Eight of the 10 participant's scores improved and the other two remained the same from the pre-test to the post-test. Participants TR8-M5 had the highest pre- and post-test score (16 and 16). There were three participants whose scores increased by one in the post-test, one that increased by 2, another that increased by 4, and two that increased by 5. One participant's score increased by 6, which is the highest score increase in the TR group. As was the case for the DR group, the number of prompts increased from pre- to post-test for the production assessment, due to the fact that I could relate the target to what the child had heard/seen in the stories they had been reading throughout the programme. Specifically, the number of prompts increased for five of the 10 participants, with four decreasing and one staying the same. However, four of the 10 participants who had prompts in the pre-test did not require any prompts in the post-test, which is better compared to the DR group (where all participants except one increased in the number of prompts). Even without the prompts, all the TR participants' scores still would have improved.

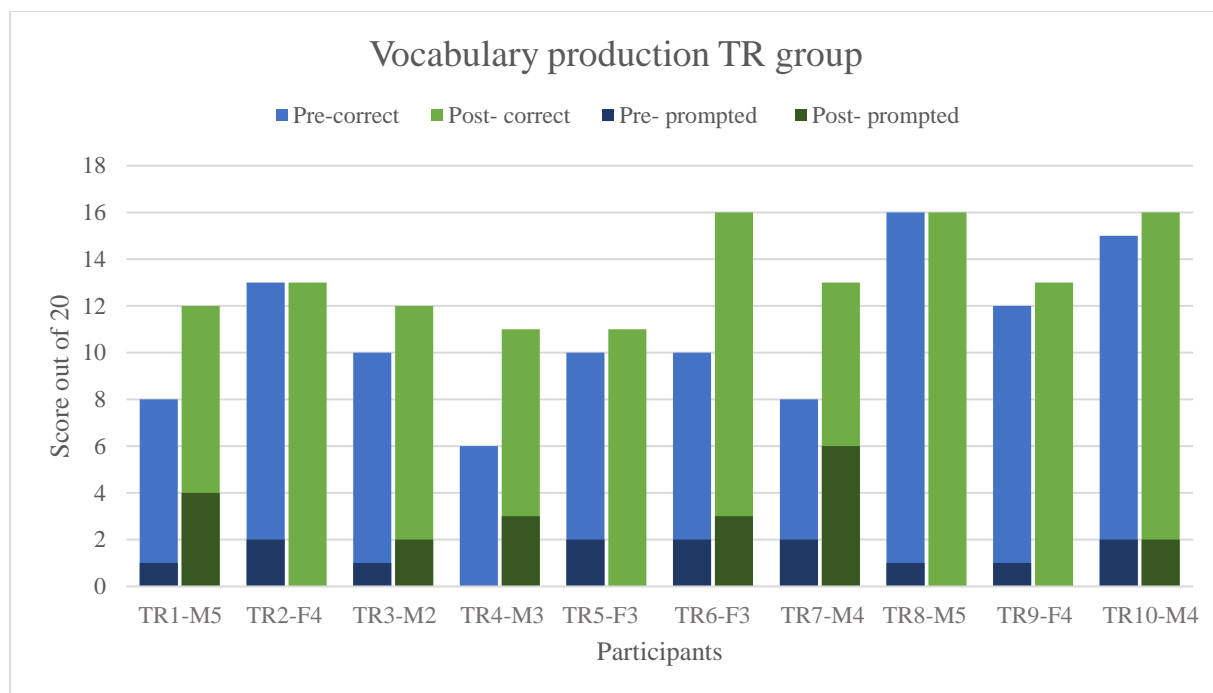


Figure 11: Clustered bar graph showing the vocabulary production pre- and post- scores of the TR group

Figure 11 shows that there was also an increase in the TR group's vocabulary production after the 4-week 'traditional reading' programme, which as stated before, was to be expected given the positive influence of reading on vocabulary.

Again, participant TR6-F3 had the most improvement within the TR group, with a score increase of 6 in the post-test. It seems that this participant was influenced by the 'traditional reading' programme the most, with regards to both vocabulary comprehension and production.

4.3.3 Vocabulary production: Group comparison

The box plot in Figure 12 shows the pre- and post-test scores for the vocabulary production assessments for both the DR group and TR group.

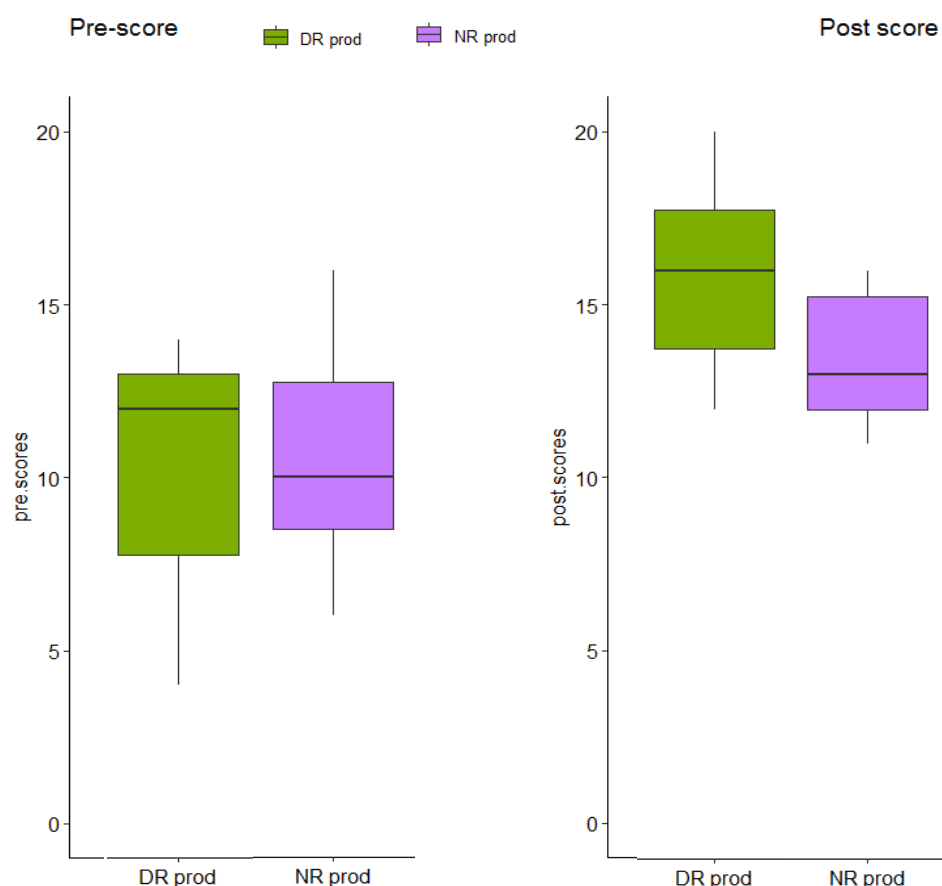


Figure 12: Box plot showing the pre- and post- scores for vocabulary production for both the DR and TR groups

From Figure 12, one can see that the DR group started off with lower scores than the TR group, yet still ended up with higher scores, leading one to ascertain that the DR group improved more.

Table 5 shows the descriptive statistics of the pre- and post-test scores for the vocabulary production of both the DR and TR groups.

Table 5: Showing descriptive statistics of the pre- and post- scores for both groups' vocabulary production

	Dialogic reading group		Traditional reading group	
	Pre	Post	Pre	Post
Minimum score	4	12	6	11
Maximum score	14	20	16	16
Mean	10.4	15.9	10.8	13.3
IQR (made up of Q1, median and Q3)	6.25 (Q1=6.75, Q3=13)	5.5 (Q1=12.75, Q3=18.25)	5.5 (Q1=8, Q3=13.5)	4.25 (Q1=11.75, Q3=16)

Table 5 allows us to see that the DR group's average score was lower by 0.4 compared to the TR group for the pre-test. It also shows that the DR group's average post-test score was 2.6 points higher than the TR group. This highlights that the DR group improved more on average than the TR group (by 5.5 compared to 2.5). It also shows us that the minimum score for the DR group improved by 8, and by 5 for the TR group. The maximum score for the DR group improved by 6 and remained the same for the TR group.

4.4 Results from the LITMUS-MAIN: English

4.4.1 LITMUS-MAIN: English DR group

Figure 13 below shows the individual scores for the DR group participants on the LITMUS-MAIN: English pre- and post-intervention assessments, specifically the story structure and structural complexity sections.

For the story structure, six of the 10 participant's scores improved, two stayed the same, and two decreased from pre- to post-test. There was one participant whose score increased by 1 in the post-test, three whose scores increased by 2, one that increased by 3, and another that increased by 4. Two participant's scores decreased by 1.

For the structural complexity, three of the 10 participant's scores improved, two remained the same, and five decreased for the post-tests. Two participants' scores increased by 2 in the post-test, and one participant whose score increased by 4. Two participant's scores decreased by 1, and three decreased by 2.

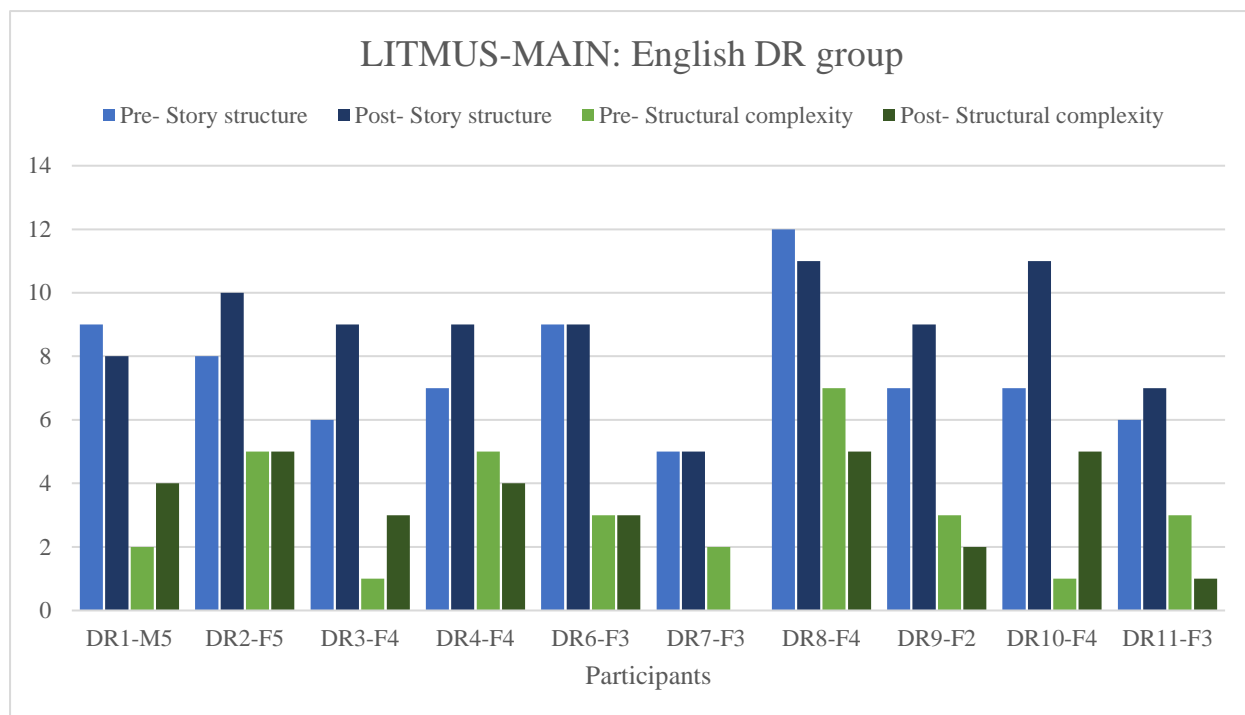


Figure 13: Clustered bar graph showing the individual scores for the DR group's story structure and structural complexity scores

Participant DR10-F4 showed the most improvement in the story structure (scores going from 7 to 11 in the post-test), as well as the structural complexity (scores going from 1 to 5 in the post-test).

4.4.2 LITMUS-MAIN: English TR group

Figure 14 shows the individual scores for the TR group participants on the LITMUS-MAIN: English pre-intervention assessment for story structure and structural complexity.

For story structure, seven of the 10 participant's scores improved, one remained the same, and two decreased for the post-tests. There were four participants whose scores increased by 1 in the post-test, and two that increased by 3, and one that increased by 4. Two participant's scores decreased by 2.

Six of the 10 participant's scores improved for structural complexity, three remained the same, and one decreased for the post-tests. There were score increases of 1, 2 and 3 points for two, one and two participants respectively, and one participant's score decreased by 1.

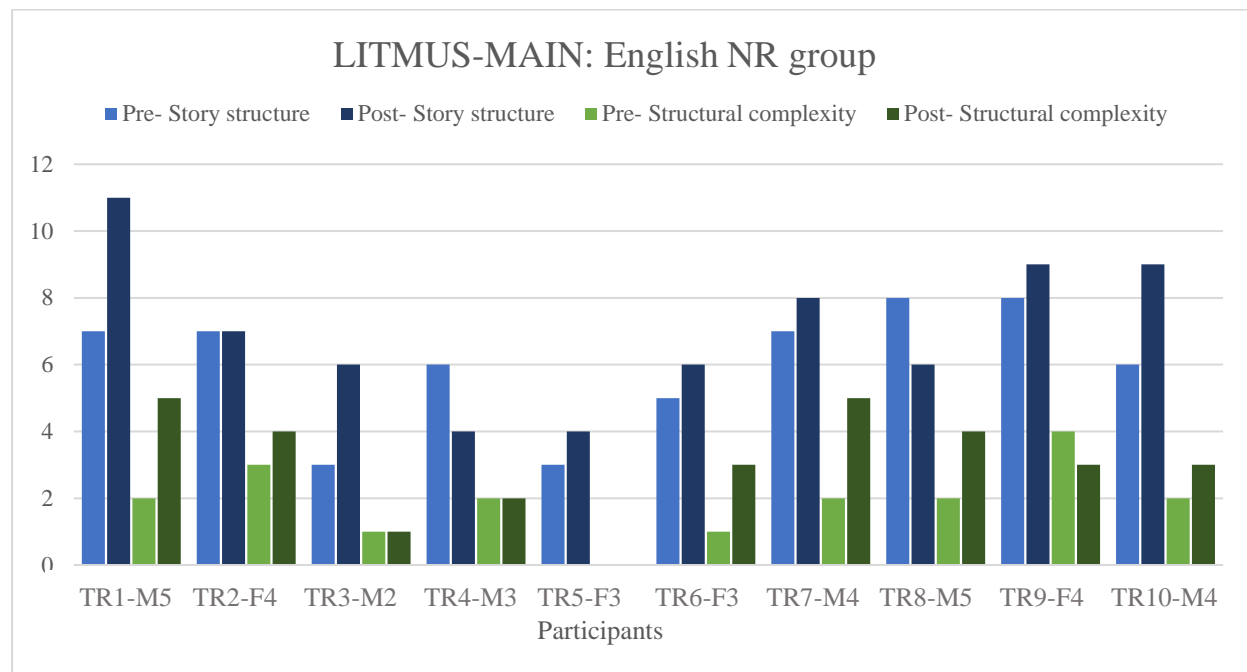


Figure 14: Clustered bar graph showing the individual scores for the TR group's story structure and structural complexity

Participant TR1-M5 showed the most improvement in story structure (scores going from 7 to 11 in the post-test) and also for structural complexity (scores going from 2 to 5 in the post-test).

4.4.3 LITMUS-MAIN: English DR and TR group comparison

The box plot in Figure 15 shows the pre- and post-test scores for story structure and structural complexity as measured by the LITMUS-MAIN: English, for both the DR group and TR group.

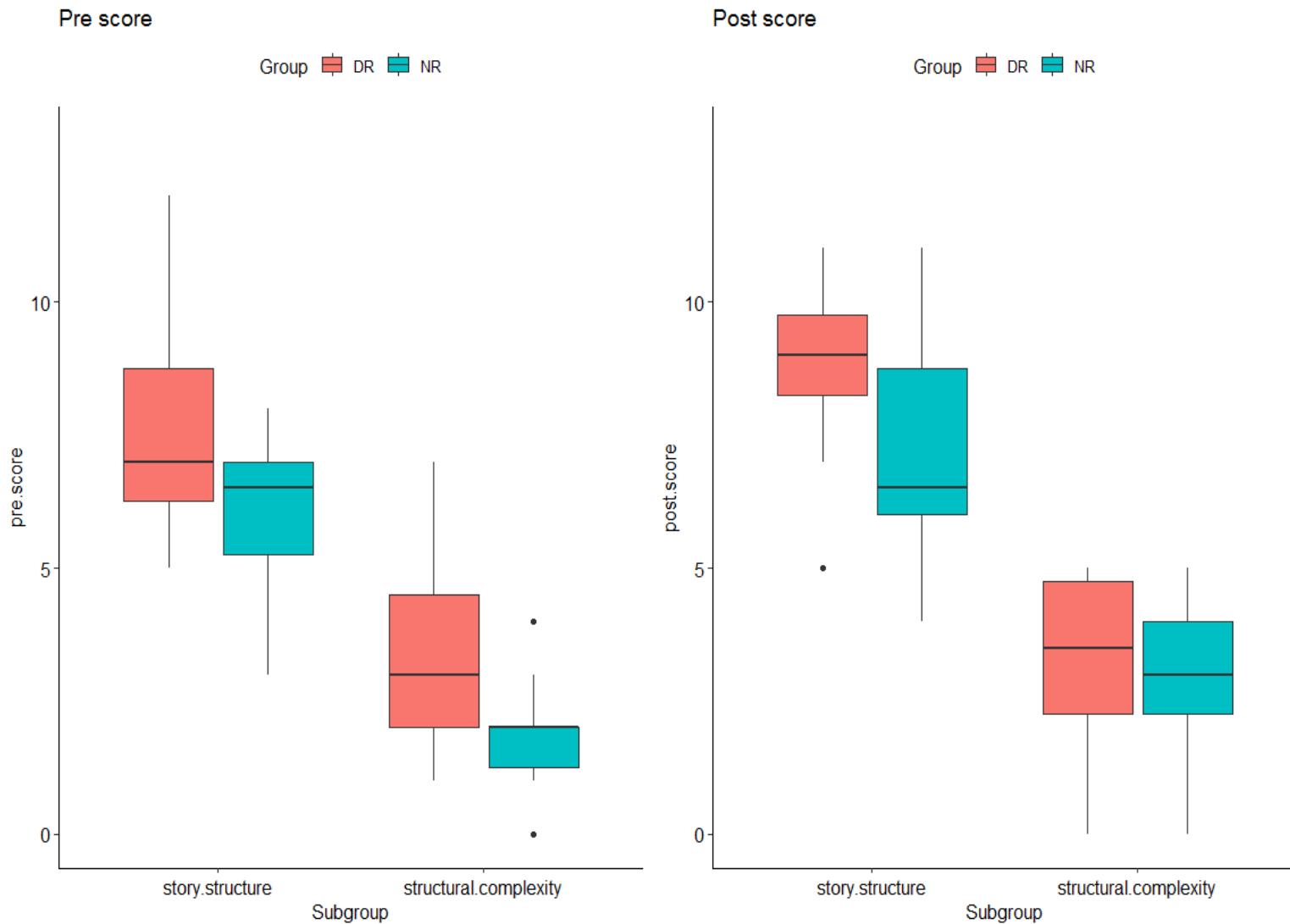


Figure 15: Box plot showing the pre- and post- scores of the DR and TR groups on story structure and structural complexity

Table 6 shows the descriptive statistics for story structure and structural complexity from the pre- to post-tests for both the DR and TR groups. This highlights that the DR group fared better on both story structure and structural complexity pre-intervention, with the maximum scores being 12 (DR group) and 8 (TR group) for story structure, and 7 (DR) and 4 (TR) for structural complexity.

The average scores for the story structure for the DR group increased by 1.2, and for the TR group by 1. For the structural complexity, it shows that the average scores for the DR group stayed the same, but for the TR group they increased by 1.1.

Table 6: Showing the descriptive statistics of both groups' story structure and structural complexity scores

SS = Story structure SC= Structural complexity	Dialogic reading group				Traditional reading group			
	Pre		Post		Pre		Post	
	SS	SC	SS	SC	SS	SC	SS	SC
Minimum score	5	1	5	0	3	0	4	0
Maximum score	12	7	11	5	8	4	11	5
Mean	7.6	3.2	8.8	3.2	6	1.9	7	3
IQR (made up of Q1, median and Q3)	3 (Q1=6, Q3=9)	3.25 (Q1=1.75, Q3=5)	2.5 (Q1=7.75, Q3=10.25)	3.25 (Q1=1.75, Q3=5)	2.75 (Q1=4.5, Q3=7.25)	1.25 (Q1=1, Q3=2.25)	3.5 (Q1=5.5, Q3=9)	2.5 (Q1=1.75, Q3=4.25)

For story structure, the DR group's minimum score did not change, whereas the TR group's increased by 1. For structural complexity, the DR group's minimum score decreased by 1 and the TR group's score remained the same. The maximum scores decreased by 1 for the DR group's story structure and increased by 3 for the TR group. For structural complexity, the maximum score decreased by 2 for the DR group and increased by 1 for the TR group. The mean increased by 1.2 for the DR group's story structure, compared to 1 for the TR group. For structural complexity, the DR group's mean remained the same, whereas the TR group's increased by 1.1.

4.4.4 Discussion summary of pre- and post-test results

Overall, these results have shown that for vocabulary comprehension and production, the DR and TR programmes had a positive influence. The positive influence on the vocabulary comprehension and production is the outcome that was expected, as it aligns with the literature already available on DR interventions that focus on vocabulary (Whitehurst *et al.*, 1988) and

general reading to children improving vocabulary (Mol *et al.*, 2008). The results show more improvement on average, in the DR group on both the vocabulary comprehension and production.

With regards to the LITMUS-MAIN: English assessment, on average, the story structure improved more for the DR group, and the structural complexity remained the same. For structural complexity the results were unexpected, as literature found the influence of DR programmes on narrative skills to be positive (Whitehurst *et al.*, 1988), so an improvement was expected. However, this could have been due to a number of factors, such as the delivery of the assessment being online versus in person.

4.5 Thematic analysis of the Focus Group Discussions

Thematic analysis of the focus group discussions rendered six main themes. These are discussed below, with all quotations of the caregiver's responses being verbatim from the Focus Group Discussions.

4.5.1 Discussion of theme 1 - Person delivering the programme

This theme speaks to the person delivering the programme to the parent-preschooler dyads. Parents mentioned how their children reacted to speaking to a stranger, which caused them to respond differently for their video call assessments than they would have had it been a familiar person doing the assessments. It thus appears as if some children felt intimidated by my presence during assessment tasks. One parent mentioned how her child was concerned about talking to a stranger for the assessment, which in turn would have influenced her response:

“I know it's possibly my child, because I know in that assessment like the telling the story at the end she was useless but she doesn't talk to strangers” – Mother of participant DR7-F3

By contrast, according to another parent, their child was aware it was not just traditional reading therefore seemed to either be more willing or performed differently:

“obviously you started off with the assessment first so she kind of figured out that this is not just normal reading” – Mother of participant DR4-F4

One parent suggested having the parent do the assessment as a way to eliminate the effect of the researcher on the child, as her child was very shy when speaking on the video call, and the mother believed she would have fared better in the assessment tasks had it been just her and her child:

“I don’t know if me doing it and recording it would give a different result” – Mother of participant DR7-F3

Parents raised the point that by connecting with teachers, it could provide a familiar contact person for the child and parent (not only for the assessment part but also for the intervention part), as well as providing the exposure to that type of reading from both the home and school environments. The parents also suggested that having the teacher as a contact point may reduce the discomfort/unease for the child and adult participants, as the teacher would be someone familiar to both the parent and child:

“maybe you can go through the teacher and then the teacher could pass it on through the parents” – Mother of participants DR8-F4 and DR9-F2

One parent mentioned how parents often listen more to teachers than outsiders, stating

“the teacher as an in is also a nice idea because I think parents will often listen to...” – Mother of participant DR7-F3

Another parent brought up the topic of participating adults not all being native English speakers and pointed out the need to provide the material and instruction at an appropriate level of language for English second language (ESL) speakers:

“make sure that you use basic language obviously because maybe people are not English first language so you do ESL focused language” – Mother of participant DR4-F4

She also brought up that the participant might not want to say that they do not understand something due to feeling intimidated or insecure, so she thought face-to-face sessions may help in this respect:

“because sometimes they’re not going to tell you that they don’t understand” – Mother of participant DR4-F4

However, according to Arnold *et al.* (1994), providing training to parents in DR techniques produced improved outcomes when the training was done via instructional videos, rather than in person with a ‘trainer’. They also suggested that the reason instructional videos produced better outcomes was due to the examples displayed of techniques by the parent and correct responses from the child during reading interactions (Arnold *et al.*, 1994). Should one make use of a teacher to deliver the training part as well, instructional videos may therefore still be indicated.

Other than providing a familiar person for the child and parent to correspond with, it has been said that one-on-one dialogic reading interactions are better than small-group dialogic reading interactions in terms of vocabulary. The latter is what typically occurs at schools, so Whitehurst *et al.* (1988) suggested that focus be put on parent-child reading – or on teacher-child reading where it is one teacher and one child, to allow for better and more meaningful interactions, but the latter is not implementable in the under-resourced South African school system. Whitehurst *et al.* (1988) state that if the groups for DR sessions are bigger than three, not all the children get the same opportunity to engage and use their language skills. Based on this, it seems as if teachers may be good points of contact, but that one-on-one DR benefits the child more than small-group DR.

Teachers would however require training in DR before they could administer a DR programme. Two of the parents were teachers and they said that even as a teacher they did not know about these techniques so were glad to learn something new, but they too had to watch the instructional videos more than once to grasp how to do the technique properly:

“I know even for myself as a teacher and being quite familiar with this sort of stuff I still had to watch some of those videos twice to sort of go, ‘Okay, cool’ or check that I was doing the technique properly” – Mother of participant DR7-F3

“we are both teachers but we don’t always know all these little techniques I mean and its nice, it’s great, to its helped me a lot and yeah and reading other stories now and how to specifically, the completion of actually eliminating a word every time, I never used to do that yeah so it’s been very helpful in that sense” – Mother of participant DR11-F3

Some of the parents suggested that providing training to the teachers as well as the parents could assist in heightening the influence of the programme and could possibly allow for better results, and that working through a teacher might also provide a home-school continuum:

“you can go through the teacher and then the teacher could pass it on through the parents as well so it could be coming from school and at home” – Mother of participant DR11-F3

4.5.2 Discussion of theme 2 - Delivery platform and material

This theme speaks to the material and how the programme was delivered to the parent-preschooler dyads. Parents (and children, during the post-programme assessments) mentioned that their children enjoyed the books that were sent out during the programme, they seemed to enjoy the book ‘Ann-nem-oh-nee finds adventure’ the least:

“with the exception the one, the ann-nem-oh-nee one she was very happy to read them all” – Mother of participant DR7-F3

But seemed to enjoy ‘Where’s that cat?’ the most:

“in fact last night I read ‘Where’s that cat?’ again.” – Mother of participant DR7-F3

To make sure the children engage with the books, the children must enjoy the stories, which is an important consideration to make, as reading for enjoyment is something often considered a missing aspect of literacy development (Lessing-Venter and Snyman, 2017), so having enjoyable reading material is key for developing emergent literacy skills.

Another aspect that needs to be taken into consideration in order to promote the engagement with the stories is the relevance of the stories to the child’s life. One parent mentioned how choosing books from Bookdash was a good choice as they are contextually relevant (being African storybooks) and that that was important for South African children:

“obviously the books you chose, was Bookdash and very relevant, so making sure they’re contextually relevant” – Mother of participant DR4-F4

According to a study done in America with Latino/a students, children reacted well to culturally relevant books, as that meant they could relate to the themes, events, and characteristics in the stories, as well as expressing a desire to read more culturally relevant books (Rodriguez, 2014). This bodes well with the use of Bookdash books on reading interventions with South African children.

One mother had both her daughters in the study, one being 2;8 old, and the other being 4;9 old. She mentioned that her younger daughter enjoyed the books more, and seemed to engage more actively in the reading techniques:

“for my nearly 3-year-old these books were absolutely perfect like she was learning new words, her vocabulary has improved on the words that she is speaking about” – Mother of participants DR8-F4 and DR9-F2

This did show in her youngest daughter’s results (DR9-F2), as she improved on both her vocabulary comprehension and production scores. As for her older daughter, she thought the books were perhaps too easy:

“I thought for her the books were maybe a little bit too easy I mean we’ve been reading more difficult books along the way, so for her she liked it as an activity and she was doing this for teacher Tory but I don’t think that it was necessarily challenging for her mind” – Mother of participants DR8-F4 and DR9-F2

The older daughter still showed improvement, but less so than the younger daughter. The mother then went on to suggest having a wider variety of book levels for the children, so as to allow the older children to be as challenged by the books as the younger children would be. She suggested having a wider variety of books that have target audiences of narrower age ranges:

“I think just age, so 3-5 there’s quite a lot of development that happens between 3-5 so you know having a book for 3 year olds, 4 year olds, and 5 year olds maybe” – Mother of participants DR8-F4 and DR9-F2

Another mother said that her and her child had already started reading longer books prior to the programme, so the short stories used in the study were too easy for her daughter:

“my daughter is 4 and a bit and we generally read slightly longer books” – Mother of participant DR3-F4

Again, emphasising the possible need for more age appropriate books.

As well as having the more age appropriate books, the mothers mentioned that the number of books used in the study was too few. They mentioned how they found reading the same book for five days in a row challenging, as the children grew bored or disinterested:

“the only challenge I had was sometimes she was like ‘we read that’, ‘no I want to read something different’ like reading the same book multiple nights” – Mother of participant DR3-F4

However, the fact that the books and the reading times were short meant that they could fit in more than one book a night, so they would read the programme book, then one of the child’s choosing:

“but thankfully they were quite short so it was easy to slot that in with some other books” – Mother of participant DR3-F4

In numerous studies, such as Whitehurst, *et al.* (1994), the parents were asked to read to their children at least three times per week, using the dialogic reading techniques; the children would be given the book on Monday to bring back to school on the Friday. For this study, the goal was to have them read three times a week, that is why I asked them to read for five nights a week so as to make sure they were guaranteed to do the three reading sessions, it also allowed the parents to get into the rhythm of reading and get a handle of the techniques.

One mother mentioned how her child, after reading a book for a few days, ended up memorising the words of the stories and reciting them word for word:

“by like the end of the week my oldest daughter would be able to repeat the whole book back to me basically so and she like verbatim was saying the book back” – Mother of participant DR8-F4 and DR9-F2

Another mother mentioned how her child got to know the books so well that by the last few days of the week her child role reversed the techniques onto her:

“she’ll role reverse and then she’ll ask me questions like we’ve done this already so ...”
– Mother of participant DR4-F4

Apparently when this child got bored of the books, she tended to race through them so she could get to a book that she chose to read instead:

“she wanted to go through it very quickly also like ‘Let’s just get this one done so we can read the others’” – Mother of participant DR4-F4

Some of the parents suggested doing a different book on each day of the week or two books a week to add variation and limit the chances of the children getting bored:

“do the one book every Monday the one book every Tuesday and so on, just to give them a little bit of a break” – Mother of participant DR8-F4 and DR9-F2

Due to the reaction to reading the same book for five days, perhaps adding an option of books to choose from for the week might be a better option, as long as the parent and child gets the chance to fully engage in the reading and techniques.

However, there is the issue of knowing the book well enough to be able to fully participate in the techniques, as one mother said that she found the first read of a book challenging as her child doesn’t know the book and therefore can’t respond to the prompts as well:

“I found that the first time you read the story, so for your first week, I think it would be a bit challenging because the first time you read that story, you asked the questions and used the techniques, was quite difficult” – Mother of participant DR7-F3

So there is a need to balance the time spent on each individual book to make sure there is enough connection with the content of the books, and it being done in a way that the child doesn't spend too much time on one book resulting in getting bored and not enjoying the story as much.

Another point raised by the parents was how the record sheets that I asked them to fill out after each reading session did not provide the appropriate scale of response, considering a few of the children found the books too easy. At the very beginning of the programme, one parent contacted me and mentioned that the questions on the daily record sheet were not easily answerable, so they were edited to be separate questions, instead of numerous combined questions. However, the parents still felt that the questions on the record sheets were not a good scale as they went from 'too hard' to 'perfect', which didn't allow for 'too easy' on the questions referring to the reading level of the book, which for some children it was:

"I found for her and for the questions didn't really it went from too hard to perfect and for her I thought for her the books were maybe a little bit too easy" – Mother of participants DR8-F4 and DR9-F2

One parent said she would have preferred yes/no questions:

"I wasn't exactly sure how to respond to the little questionnaire. Like I often just wanted to have a yes/no because it was to me I couldn't really say a 2 or 3 it was either a 5 or 0 but I think that's hard to phrase stuff and understand it and yeah" – Mother of participant DR2-F5

In hindsight, the scales on the record sheet did not depict the possible outcomes, they needed to have the option to choose 'too easy'.

One of the reasons for having a daily record sheet was to be able to keep in contact with the parents, I used the record sheet as a reason to send out daily reminders and to give the parents the chance to reach out if they needed to. When asked about the amount of contact I had with the parents, they stated that one reminder a day was enough:

"mean it was one message a day which was actually to be honest quite a nice reminder for me because yeah you get busy and you forget" – Mother of participant DR7-F3

They also felt that they were well-informed, and that I provided them with what they needed:

“I think you didn’t message too much you gave us enough information” – Mother of participants DR8-F4 and DR9-F2

If it was necessary for a parent to ask me a question, if they were struggling or needed clarification or just to say that they were perhaps delayed by a day on the reading sessions, they knew I would respond promptly:

“knowing that when I did need to ask a question, I could message you and you responded very promptly and very helpfully” – Mother of participant DR7-F3

This would help with giving the parents the confidence of speaking up if they were unsure.

Another way to help with the insecurities surrounding speaking up when unsure was suggested by the parents. They suggested that face to face sessions may be better to make it more personable and to give the participants the chance to ask questions and explain what they mean or need, as well as a way to more thoroughly explain the techniques and allow for better engagement in learning the techniques:

“one of the moms said not everyone is always going to say I don’t know so even my students they won’t tell me until submission date has passed and they said I didn’t know what to do, so kind of forcing that engagement of do you understand in a 1-1 setting” – Mother of participant DR4-F4

To help with the actual techniques, parents mentioned how they would have preferred to have had a physical document, outlining and explaining the techniques. They suggested creating a PDF or workbook that details the techniques and gives examples, as a way to incorporate more family members, and even teachers, in the reading sessions with the child:

“I think it would be nice to give some tips or like a one pager so I can share it with my husband” – Mother of participant DR4-F4

And also allowing parents to have something for later reference, so that it did not have to be just the one parent doing all the reading:

“a one pager would actually be really useful cause I think similar to the other moms, I did all the reading by myself so my husband doesn’t necessarily know all the techniques and it would be nice to share that” – Mother of participants DR8-F4 and DR9-F2

Either way, if you were to deliver a programme like this, face-to-face or online, a document outlining the techniques, on top of the instructional videos would be beneficial:

“yeah I agree the one pager would be great because it’s actually something like even thinking back now I can’t quite remember what the first technique was so kind of slotting it in your book case and like you can laminate it or something and you can just and you know those little prompts you gave us in the beginning just explaining it like distancing or you know short explanation and also something that you on a pdf you could share or even share with teachers in a classroom” – Mother of participant DR2-F5

One parent suggested creating a workbook for the parents to work through:

“so if someone could literally have like a printed out pack and you could work your way through the pack” – Mother of participant DR2-F5

This could be an added instructional tool for any future programmes, to make sure parent-preschooler dyads are keeping up with the programme. It would also allow for possibly adding other elements into the programme, such as creativity or writing, for older children. One parent mentioned trying to incorporate other literacy tasks (such as writing) into the programme:

“even inspiring creativity like why don’t we write our own story or whatever just something that can build on the programme so it’s not just feeling like we read and then we ask you questions” – Mother of participant DR4-F4

They also suggested using more layman's type of language for the explanations, so it is more universal for those who might not understand academic language, which would benefit any future participants who may speak a home language other than English:

“that would throw my husband off so if you create those [referring to the one-pager] different your target audience like for parents or for teachers and tweak it so that it's kind of more in a layman's everyday language versus when you're doing it with educators or people that you know are understanding the academic language.” – Mother of participant DR4-F4

One mother suggested that providing explanations of the benefits of the DR programme would incentivise the parents to participate more regularly and consistently, as it would highlight the possible benefits for their child:

“having a brief outline of the benefits maybe, some people will just see its dialogic and as gross benefits versus your being specific” – Mother of participant DR4-F4

“to kind of motivate people on certain aspects” - Mother of participant DR4-F4

She believed that explaining the benefits would show people what they are doing the techniques for, and how it would benefit their child:

“so people kind of know what they need to be building on and not just reading and doing the prompts” – Mother of participant DR4-F4

On this, it elicited another suggestion of providing more detailed examples of techniques for each specific book:

“know you take the one book, exactly like the video but not in video format and say example WH- questions and maybe give page reference numbers, so you can have on page 1 you could ask this question, on page 2 you could ask this question or point out the pictures” – Mother of participant DR2-F5

So in the instructional videos and in the ‘workbook’ there could be more specific examples, showcasing the techniques being used in the books they are reading at the time, so they can see how it is done at a specific level.

4.5.3 Discussion of theme 3 - Routine and love of reading

This theme speaks about the routines parents usually follow when reading to their children. Many of the parents mentioned how they tried to incorporate the reading sessions into their usual daily routines. All the participating parents said that they read to their children before the programme:

“we’ve been reading since in utero that was papa’s way of getting involved while I was pregnant” – Mother of participant DR4-F4

However, they all read in different ways and for different periods of time/frequency:

“we always read at bedtime so we integrated it into that” – Mother of participant DR3-F4

“we also read at bedtime” – Mother of participant DR4-F4

“we tried to stick to our normal bedtime routine with the story but also in the afternoons I would also if I was resting I’d say ‘Come [name retracted], come, come lie here with me’ and then we’d read together like that” – Mother of participant DR11-F3

According to the mothers, the books weren’t too long which meant you could read more than one book a night if the child wanted to, and when the routine was not consistent due to other activities or family commitments, it was relatively easy to fit the reading sessions into any routine:

“just I mean the one week we did have to move and there was a public holiday and so like to try and play catch up on those days was a bit challenging but in general we do read to them quite frequently in any event, so you know like, you maybe don’t do it

every day but I think it was, but also I think because it wasn't long books it didn't take too long" – Mother of participant DR8-F4 and DR9-F2

One mother spoke about how she has noticed a change in her child's willingness to engage in the reading sessions, and book reading in general. She mentioned that her one child did not enjoy reading as much before the programme but now seems to enjoy it more:

"[name retracted] has in comparison to her older sister not been very keen on reading in general so she would often just play with toys when its bedtime or kind of slot in half way through a story so um, sometimes she'd be interested but I would say she was maybe like a 70%-er rather than [name retracted] who would be a 95 no 100 she always wants to read so this was very different although she didn't necessarily remember in time to remind me 'Oh Mom, we have to do the reading' or 'Tory's reading', as soon as I would say it's time to do the reading she would be excited and come and jump on my lap and generally be enthusiastic about the books and generally about answering the questions" – Mother of participant DR2-F5

4.5.4 Discussion of theme 4 - Child's interaction

This theme speaks about the child's interaction in the reading sessions and assessments. The mothers spoke about the fact that a child's energy levels influenced the reading sessions and assessments, possibly more than they had anticipated, so that if the child was tired they wouldn't be as engaged and therefore not respond appropriately:

"I think if she was very tired she has ballet on the one day so that day was quite hard to do," – Mother of participant DR2-F5

"that there were one or two nights when she was quite tired though and I wondered how much that sort of affected her, because those were the nights you must probably saw, she wanted to do it but didn't participate was very happy just to be read to" – Mother of participant DR7-F3

Also, with the assessments the child's mood/energy level resulted in differing responses by the child:

“she just did not want to do the final assessment she was ...” – Mother of participant DR8-F4

The parents recommended that I tell future participants to make sure the child is in a quiet calm space to do the reading and assessments:

“kind of creating that literacy environment or the assessment environment” – Mother of participant DR4-F4

Some children performed poorly on the assessment days because it was ‘just a bad day’ for them, but overall, the parents believed their children enjoyed the programme.

Almost all the children were excited to do the reading sessions and enjoyed the programme:

“[name retracted] enjoyed the programme” – Mother of participant DR4-F4

The mothers spoke about how their children's enthusiasm about the programme helped with the engagement with the books:

“it definitely helped her engagement with the books” – Mother of participant DR3-F4

They also mentioned that the children rarely prompted the reading sessions, but when asked to read, they would be excited:

“[name retracted] was always super excited” – Mother of participant DR11-F3

Doing an e-delivered programme meant that for one child participant, they were even more excited to do the programme because using the tablet/phone was considered a treat/special time for them:

“so this has almost been like a little bit of a privilege for her that she gets to listen to a story on a tablet or device” – Mother of participant DR11-F3

With regards to the techniques used in the DR programme, one comment that was made was that the child wasn't willing to do the questions/prompts during the story on some occasions and would rather do them afterwards or beforehand:

“she wasn't so keen on me stopping and asking questions during the story” – Mother of participant DR7-F3

“asked questions at the end or at the beginning she was happier but she'd get a bit frustrated if I asked in the middle” – Mother of participant DR7-F3

However, this child was one of the children who seemed to find the books to not be challenging enough, so perhaps if the book was more age appropriate for her then she would have been more willing to engage with the techniques during the book.

4.5.5 Discussion of theme 5 - Parent's takeaway

This theme speaks about the parent-child relationship that is influenced by the programme, as well as how the programme affected the parent's way of reading. It also speaks about how the parents believe they will continue to use some of the techniques in their reading sessions going forward, and how they were glad to have learnt techniques they can use while reading to their children at home.

One parent commented on the special parent-child time that following the programme created and how it allowed for a bond to form between the mother and child:

“I feel like because we've been sitting together every single day now, just her and I it has been a special little bond” – Mother of participant DR11-F3

In a study with Chinese children aged between 3 and 12 years of age, it was shown that DR has considerable potential for improving parent-child relationships (Ganotice *et al.*, 2017). The authors utilised the Parent-child relationship inventory by Gerard (1994), which is a “78-item parent self-report measure of parenting skill and attitudes toward parenting and parental attitudes towards their children” (Ganotice *et al.*, 2017:55). They found that DR has a positive

influence on specific aspects (for example, satisfaction with parenting and communication between the parent and child) of parent–child relationships due to the fact that the measure for estimating a parent–child relationship is a multi-dimensional scale (Ganotice *et al.*, 2017). This means that DR can be something that is used for intervention in certain aspects, or in conjunction with other types of intervention that may look at the other aspects, but cannot be something used to improve the parent-child relationship as a whole.

Another parent mentioned how the programme has forced her to slow down and concentrate on the reading time and interacting with the child:

“yeah I think generally [name retracted] is the more like he’s the more he takes more time when he reads, so I’m kind of like ‘Ok I still need to go clean the kitchen so let’s like do the reading and lets go on’ so this has forced me to like slow down” – Mother of participant DR2-F5

Some of the mothers realised during the programme they had unknowingly been using some of the CROWD techniques (or similar techniques) before the commencement of the programme:

“so for them it wasn’t too much of a change from how we’ve already I think been reading” – Mother of participant DR8-F4 and DR9-F2

“I think I’ve been doing a little bit of reading like that without knowing that that was its name or that’s the technique” – Mother of participant DR8-F4 and DR9-F2

This bodes well for introducing these techniques, as they would not be completely foreign to the parents. But perhaps in a community where reading is not as prevalent, these techniques would not be as well known.

The majority of the parents said they would be continuing with the techniques after the programme:

“I’ll continue to do them definitely” – Mother of participant DR3-F4

And continued to say that they were glad they had learnt the techniques, and with some of the parents being teachers, they said that they were glad to have learnt something new they could use in the classroom:

“we’re both teachers but we don’t always know all these little techniques, I mean, and it’s nice it’s great too, it’s helped me a lot” – Mother of participant DR11-F3

4.5.6 Discussion of theme 6 - Could the programme work in a LSES community

In the focus group discussions, the conversation was steered towards how the programme could be implemented in a LSES community, and parents brought up ideas regarding how LSES participants might not feel comfortable coming forward if they do not know something or need help with something:

“but sometimes people may not reach out to you cause they don’t want to seem like they don’t know” – Mother of participants DR8-F4 and DR9-F2

The parents suggested that for the LSES community, a face-to-face technique training aspect may be better. However, Zevenbergen and Whitehurst (2003) have shown that instructional videos rendered similar results to face-to-face instruction for training LSES parents in DR techniques.

The parents in the focus group discussion mentioned that LSES parents might not always have access to the data or devices needed to complete the programme like they did, and if they did have a device, it might not be suitable to read books on, or to do video call assessments:

“not everyone will have a device that they can properly see the book on” – Mother of participant DR2-F5

In the US, the use of touchscreen devices is increasing, meaning that eBooks that train parents to use DR techniques could be provided to families from all SES backgrounds (Troseth *et al.*, 2019). However, LSES families in South Africa do not have the same opportunities.

With regards to the mobile data needed to participate, the parents spoke about how, in a LSES community, doing the video calls on Zoom might be too costly:

“Zoom would be an issue, I think. Cause not everyone would have access to that” – Mother of participants DR8-F4 and DR9-F2

To combat this issue, the parents suggested that Whatsapp may work for the video calls as they do not take that much mobile data and also most people use WhatsApp on a daily basis:

“they might have access to WhatsApp for assessments” – Mother of participant DR2-F5

One of the mothers works in a LSES community and suggested using the application Moya, which they use with success:

“there are other apps like Moya app similar to WhatsApp, but it’s completely data-free, so anything you share or post on there is data-free” – Mother of participant DR4-F4

YouTubeGo was also suggested as a data-light or data-free alternative:

“we also use YouTubeGo which is data-free and data-light and you can post your videos on there”- Mother of participant DR4-F4

This would allow the participants to access instructional videos and information documents at ease and free of charge, as long as they have the device to open it on.

Other cost issues were raised with regards to doing an in-person programme and providing the children with hard copies of the books. The mothers suggested that if I was to do an in-person programme or do a multi-medium delivery (instructional videos alongside physical copies of books), I could partner with companies (or NGOs/NPOs) that work in LSES communities to help provide the books:

“there are places like little libraries, but they take books to LSES creches and so if you did have to partner with someone or find out more about what’s actually needed you could contact someone like that” – Mother of participant DR2-F5

Whitehurst *et al.* (1988) mentioned that in their study a system, like the ones utilised in libraries where books are borrowed and returned, was utilised in order for the books to be rotated from one classroom to another weekly. This was also done to ensure that all children in the intervention could have access to 30 different picture books, in the classroom and home, over the course of the intervention.

Another suggestion was to make photocopies as a cheaper alternative in the interim until a partner was found:

“you could actually just make photocopies then photocopied hard books in the beginning and then obviously then if you do get a sponsor or whatever, then they can get a maybe every now and then a nice colourful brand new book but the rest can just be black and white photocopies” – Mother of participant DR11-F3

4.6 Case studies

The four case studies below highlight the participants who illustrate the findings of this study. I chose these four participants because they are ones who are varied in age, one being the youngest in the study and show a variety of improvements in different areas of the programme. The reason for choosing four female participants is solely due to there only being one male in the DR group and the four chosen participants were more representative of the group, in terms of age and improvement.

4.6.1 Participant DR6-F3

Participant DR6-F3 is a 3;9 years old female, living in Port Elizabeth, South Africa. She did her reading sessions with her mother. She is not exposed to other languages at home or at crèche, which she attends 4-5 days a week for 1-4 hours a day. There is a member of the child's immediate family with a speech delay. The mother has completed postgraduate education and is currently self-employed, and the father completed a high school education and is currently employed. Her family is one that has a LSM score of 10 low, which corresponds to High SES.

According to the record sheets submitted after each reading session, this participant followed the programme day by day, except in the first week, as this dyad started a day later than the rest, so they utilised the Saturday of Week 1 to catch up with the programme.

This participant had an improvement of 6 points on the vocabulary comprehension assessment, and of 5 points on the vocabulary production assessment. For the story structure and structural complexity, she remained the same from pre- to post-test.

As mentioned earlier, this participant seems to fall into the ± 3 years old category, which seemed to get the most out of this programme. She either improved or stayed the same throughout the programme, which is a positive result.

4.6.2 Participant DR7-F3

Participant DR7-F3 is a 3;3 years old female, living in Johannesburg, South Africa. She did her reading sessions with her mother. She is not exposed to other languages at home or at crèche, which she attends 4-5 days a week for 9-12 hours a day. The mother has completed postgraduate education and is currently employed, and the father, who lives with them, completed postgraduate education and is also currently employed. Her family has a LSM 10 high, which indicates high SES.

According to the record sheets submitted after each reading session, this participant followed the programme day by day for the full 4 weeks.

This participant had an improvement of 5 points on the vocabulary comprehension assessment, and of 10 points on the vocabulary production assessment, which was the highest improvement in score for that assessment. For the LITMUS-MAIN: English assessment, she had the lowest results of the DR group. For the story structure, she obtained the same, low score for both the pre- and the post-test, but for the structural complexity, she decreased by 2 points. However, this could have been due to the child not feeling 100% well on the day of the post-intervention assessment, ascertained by her behaviour being uncooperative due to having a visible bruise that she kept touching, which made her seem uncomfortable.

As mentioned earlier, this participant is in the ± 3 years old category, and based on the focus group discussion, this age group seemed to get the most from this programme, in the sense that they found the books interesting, and engaged well with the books and their parents during the reading sessions.

4.6.3 Participant DR9-F2

Participant DR9-F2 is a 2;8 years old female (the youngest participant in the study), living in Johannesburg, South Africa. She did her reading sessions with her mother. She is exposed to another language at home and attends a multilingual crèche where she is exposed to English, Sesotho, isiZulu and Afrikaans, 4-5 days a week for 1-4 hours a day. The mother has completed postgraduate education and is currently employed, and the father completed an undergraduate degree and is currently unemployed. Her family has a LSM 9 low, which indicates Mid to High SES.

According to the record sheets submitted after each reading session, this participant followed the programme 5 days per week, at times using weekends to catch up with the programme if they had not managed a session every weekday (for example, due to moving house or family commitments).

Participant DR9-F2 had an improvement of 5 points on the vocabulary comprehension assessment, and of 8 points on the vocabulary production assessment. For story structure, she improved by 2 points, and for structural complexity, she decreased by 1 point. During the post-test of the LITMUS-MAIN: English assessment, the child was not engaging well at all.

Like DR7-F3, DR9-F2 fell into the ± 3 years old category, being just under 3 years old. She was the youngest participant in the study, and from her post-test scores it appeared that she was the participant who got the most out of this programme.

Being only 2;8 years old possibly resulted in the child's ability to sit and focus diminishing more rapidly than some of the older participants, as well as her cumulative exposure to literacy practices not being at the same level as that of her 4 or 5-year-old peers. However, this participant still benefited from the programme, according to both her post- test scores and the comments by her mother in the focus group discussion.

4.6.4 Participant DR10-F4

Participant DR10-F4 is a 4;5 years old female, living in Knysna, South Africa. Like the other three cases discussed here, she did her reading sessions with her mother. She is exposed to

Afrikaans in addition to English at home but only to English at crèche, which she attends 4-5 days a week for 5-8 hours a day. Her mother and father have both completed high school and are currently self-employed. Her family has a LSM 10 low, which indicates high SES.

Based on the record sheets submitted after each reading session, this dyad followed the programme day by day for 5 days per week, sometimes using weekends to catch up with the programme if they had not managed a session every weekday.

Participant DR10-F4 had an improvement of 5 points on the vocabulary comprehension task, and of 5 points on the vocabulary production task. Her story structure score and her structural complexity score both improved by 4 points, making her the participant whose story retelling skills improved most over the course of the programme.

This participant being 4;5 years old meant that her literacy exposure would have been higher compared to the previous participant's (DR9-F2), resulting in higher overall results (that is, high post-test scores but also high pre-test scores). However, there was still improvement seen.

Chapter 5: Conclusion

5.1 Introduction

This chapter will answer the research questions, whether or not an e-delivered dialogic reading programme would improve the vocabulary of the pre-schooler participants, and whether or not it had an impact on their narrative skills, for 3 to 5-year-old MSES English speaking children, as well as how the content and delivery of the DR programme was received by the parents/caregivers in the study. It will also provide a summary of the results and discussion, as well as highlight the limitations of the study and opportunities for further research.

This DR programme was the pilot of an intervention study that would aim to promote literacy and language skills in communities with LSES. It piloted the online DR programme in a MSES community to ascertain the appropriateness of the e-platform (WhatsApp, Google forms and Zoom) for the delivery of a DR programme as well as the content and scheduling of the programme itself.

5.2 Summary and discussion of results

For the DR group, more participants' scores improved for vocabulary production than comprehension, but both measures showed improvement. In the TR group, there was also improvement on both measures, but vocabulary production showed more improvement than the vocabulary comprehension. In terms of story structure and structural complexity, neither groups fared well; however, the DR group's average improvement was more for the story structure and less for the structural complexity. Given the limited sample size, it is not possible to generalise the results; however, with the positive change in vocabulary comprehension and production, it seems that both groups rendered positive effects, and the e-delivered DR programme had a slightly more positive effect than the TR programme.

Based on the focus group discussion, the programme itself seemed to have worked well, with all participants understanding what was required of them and having what they needed to perform DR tasks with their children, after watching instructional videos. The children enjoyed the programme (although more books, and books with more complex text, should be included),

and the parents found that it was easy enough to fit into a preschooler's routine, therefore being easily compatible with different family routines. With regards to delivering this programme in a LSES community, the MSES parents who took part in this study (being the only ones qualified to make suggestions, as they are the only ones who have done the programme) made suggestions about making the programme more accessible and relatable, by using data-light or data-free applications, as well as involving the teachers from the children's schools to add an element of familiarity.

When it comes to interventions in child language development and emergent literacy, DR is one way of dealing with the poor language environment found in many LSES communities, as it can be delivered easily, in a cost-effective manner and remotely. According to the Progress in International Reading Literacy Study (PIRLS) in 2016, out of 50 countries participating, South Africa scored the lowest in terms of reading and comprehension (Howie, et al., 2017). This highlights the need for low-cost, time-efficient interventions such as this one.

The results of this study could be taken to indicate that DR interventions, if made data-light or data-free, could be an inexpensive way to reduce the achievement gaps seen in children from LSES communities in South Africa when they reach school, by providing basic, easy to understand training in techniques that parents/caregivers can use at home. It is also a training programme that can be delivered to parents by teachers at the child's school, to add the aspect of familiarity for the parents (who might be more comfortable liaising with a familiar teacher than an unfamiliar researcher/trainer). Where practicable, the DR programme can also be implemented in schools, albeit in settings with small class sizes, so the child is exposed to the techniques at both home and school. With schools that are understaffed, aides or volunteers could be trained in the DR techniques to help the teachers to provide reading sessions with the children.

The results from, and the discussion of, the programme allowed me to remove programme delivery and content as reasons for it not working, as well as conclude that having a shorter programme timeframe did not hinder the vocabulary outcomes for the children, and provided enough time for the parents to learn the techniques that they could then continue with DR on their own time, after the programme is over. As seen with the studies by Vally *et al.* (2014) and Moore *et al.* (2018) that used longer timeframes (8 and 12 weeks respectively), vocabulary was seen to improve in this study. The programme was also found to be compatible with the everyday routine of the children.

In response to the research questions, the e-delivered DR programme did increase the vocabulary comprehension (less so) and production (more so) of the children, as well as the story structure, but not the structural complexity. There were unexpected gains rendered from the study that were not related to the research questions, such as the parents feeling empowered by the CROWD techniques, the special parent-child interaction, and children who were previously disinterested in reading becoming interested.

5.3 Limitations of the study

Several limitations of the study were identified. These include time constraints put on this study due to the nature of the MA programme and the impact of Covid-19, which meant that ethical clearance took a lot longer than anticipated and recruitment of participants took a lot longer as it had to be done solely online, which resulted in the bulk of the study being done in a much shorter time frame. Due to the limited timeframe for the intervention part of the study, I decided to see whether gains reported in language skills could be achieved in a shorter period of time than those employed by some other studies on DR. The reason for wanting a shorter intervention timeframe would be that it would be desirable for LSES communities where time is not readily available to take part in this type of intervention. However, considering the limited results rendered from this study (in terms of measurable increases in language skills), the 4-week programme seemed too short to achieve the same outcomes as the longer interventions seen in other studies such as that of Moore *et al.* (2018).

The number of participants recruited did not reach the initial intended goal of 45, which meant there was only one control group and not much room for attrition in the experimental group. It was advantageous that only one of the 11 participants did not complete the programme, resulting in there being 10 in the control group and 10 in the experimental group.

Load shedding, a South African issue regarding the power grid which causes areas to be without electricity for a few hours at a time, resulted in me and a couple of the participants not having access to electricity, and therefore to Wi-Fi, at the time for which the pre-intervention assessments were scheduled. The videocall assessments could thus not take place and had to be rescheduled. This resulted in three of the 21 participants starting the intervention part of the study a day later than the rest.

The videocall assessments required the child to be monitored/assisted by their parent/caregiver, which resulted in a few of the parents making comments, or helping the child with their assessments (even after being told to let the child speak and not offer any assistance), which was shown in the prompts highlighted in the vocabulary results.

Making sure the children were feeling good and were not tired or distracted at the time of the assessments was left up to the parent/caregiver. Despite parents' efforts some of the children reportedly did not perform to their best ability, which could have influenced the results negatively. There was no follow up post-test to see if the outcomes were long lasting, and the DR and TR groups were not matched by age, gender and pre-test score, resulting in pre-test differences in terms of narrative skills. The outcome of this meant that the results were more difficult to interpret.

Inter/intrarater reliability was not calculated for this study, which can be seen as a limitation. The scoring and results of the assessments were only done and seen by myself, without a checklist of possible responses/reactions/interactions/outcomes to work from when assessing the participants. For future research on this type of programme, both inter- and intrarater reliability should be calculated to allow for more reliable scoring, and therefore more accurate research. Linked to this is the fact that there was no fidelity checklist used in this study, which could have led to differences and irregularities in the interactions with and scoring between the different participants. Again, for future research in this field, the use of a fidelity checklist would be beneficial.

The measures developed to assess vocabulary comprehension and production were appropriate for this study, however, they may not have been sensitive enough to reflect intervention gains across the age range of the participants.

5.4 Implications for further research

As this study was a pilot in a MSES community in order to eliminate financial constraints as a potential causal factor, and the programme proved to be successful, future research can now apply changes to the programme in order to improve it, making it more suited to a LSES community so it could be delivered in order to determine if the programme brings about positive changes in the language skills of children with LSES. One would also need to

determine whether or not parents in LSES communities master the CROWD techniques comfortably in a short space of time (or if more detailed training, possibly delivered over a longer period of time, is necessary in LSES settings).

Other directions for future research could include investigating how to change the programme so that it improves narrative skills, considering the results of this study were not as expected. One could also investigate whether the same gains in parent-child relationship reported in the (face-to-face) Vally *et al.* (2014) study can be achieved for an e-delivered DR programme, and whether the use of animated e-books instead of static e-books render greater improvements in child language in LSES context, as seen in the study by Smeets and Bus (2012) conducted in a MSES context. The latter study showed that the interaction with animated e-books for children aged 4 and 5 years old aided in their vocabulary acquisition more than static books (Smeets and Bus, 2012). If one could create a data-light or data-free application that could provide animated e-books to children from LSES communities, one could investigate the influence of the animated e-books on LSES children's vocabulary and/or narrative skills.

People are busy, especially working parents, and with children who have full schedules, time efficient interventions such as the one in this study, are optimal. Further investigation into such is deemed warranted by Durwin, Carroll and Moore (2016). With the current study's programme being low-cost, time efficient and requiring very limited resources, it is a programme that can be used in home and school environments to help increase children's vocabulary skills. Further research into similar interventions could look at the long-term outcomes of shorter programmes using post-intervention assessments immediately after the completion of the study (as in the current study) as well as 6 months later, for example. One could look at the long-term influence on the children's vocabulary, as well as the parents use of the techniques used, and how they changed over time. Another possible avenue to take the research is looking at training illiterate or less literate caregivers to utilise the DR techniques, to see if the training is successful and if there is the same impact on the children's vocabulary. One could also adapt the current programme to be used with participants that are English second language (ESL) speakers, which is a study that would highly benefit the South African population due to the vast number of ESL speakers (Tibane, 2020).

5.5 Concluding remarks

While looking at previous research on dialogic reading, I have found that there are gaps in the literature. I have contributed to narrowing these gaps in some way through this study. Tayob and Moonsamy (2018) suggested that future studies could be done on caregivers' perceptions of reading strategies, and by looking at how the parents perceived the content and delivery of this programme, I have added to this pool of research. Reading, writing and arithmetic are basic concepts that should be taught primarily (Mouton, Louw, & Strydom, 2013), this intervention is one such programme that can help promote vocabulary learning, which is a prerequisite for reading with comprehension (Biemiller, 2006).

The following takeaways were experienced during this research: The study has shown that children can acquire vocabulary items quickly in favourable circumstances and it highlighted the importance of reading to and with children from a young age. It has exposed me to new techniques and skills to focus on for future research or career avenues.

I agree with Tayob and Moonsamy (2018) that when it comes to access children have to literacy-rich environments, children, regardless of their previous or current SES level, would do better in literacy rich environments. Those environments are what encourage the growth and development of their language and literacy skills, which in turn impact their achievements at school.

The aim of this study was to see whether a short-term e-delivered DR programme can improve the vocabulary comprehension, vocabulary production and narrative skills of preschool aged children. I found that the 4-week e-delivered DR programme improved vocabulary production more so than comprehension, and story structure but not structural complexity for the narrative skills of the children. This could serve as an indication that 4 weeks is not long enough to effect change in all of these language skills. Despite these limitations of the study, there appeared to have been other gains, such as parent-child relationship/interaction, child interest in reading as an activity and parents feeling empowered by the CROWD techniques. From this, it is evident that training in DR could be done in a cost-effective way and can potentially be delivered to many different communities, meaning that the interventions can aide in diminishing the literacy crisis apparent in South Africa.

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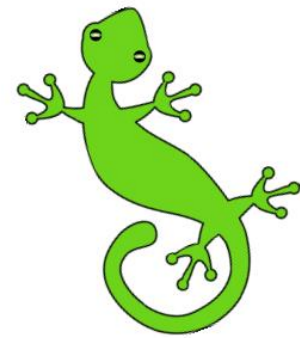
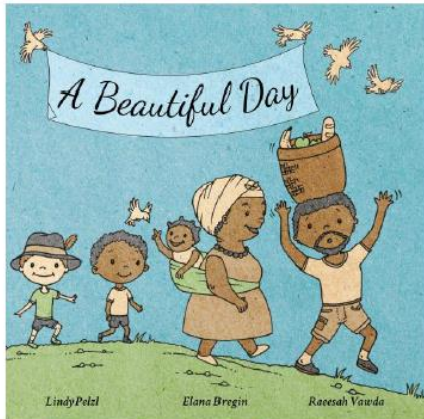
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Appendix A – Vocabulary Production assessment images



Gecko



Donkey



Collar

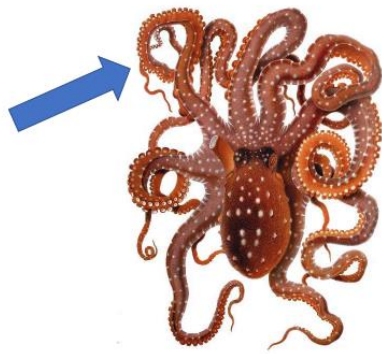


Eagle

Ann-Nem-Oh-Nee
finds Adventure

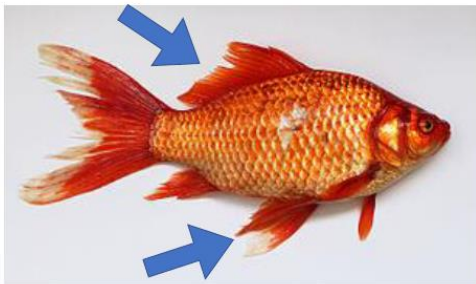
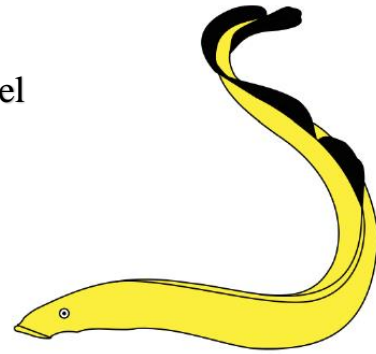


Jessica Bosworth Smith Matthew Griffiths Lauren Nel



Tentacle

Eel



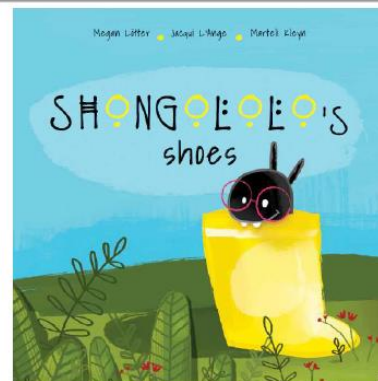
Fins



Shells



Hermit Crab



Hedge hog



Umbrella



Helmets



Lilly Pads



Mirror



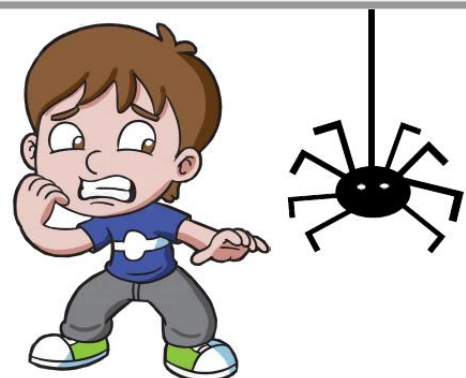
Honey



Footprints



Bolt



Scared



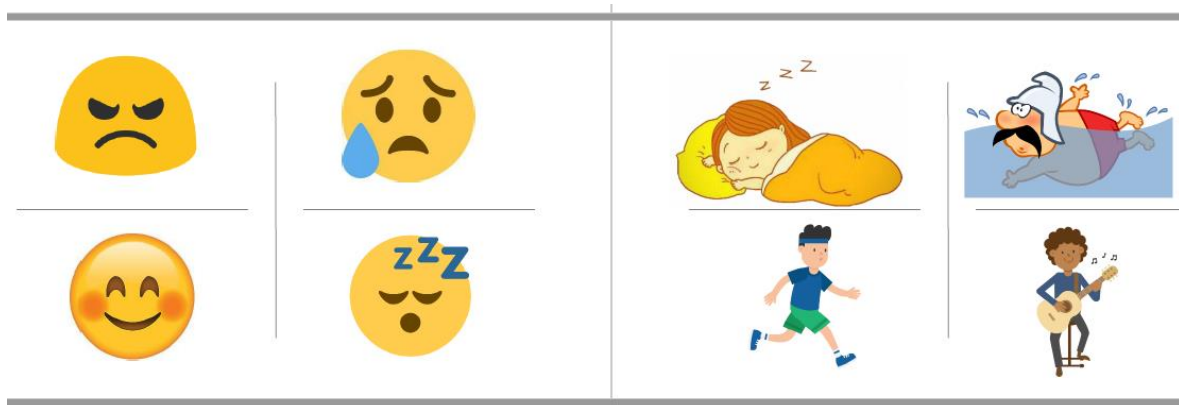
Battery



Dragonfly

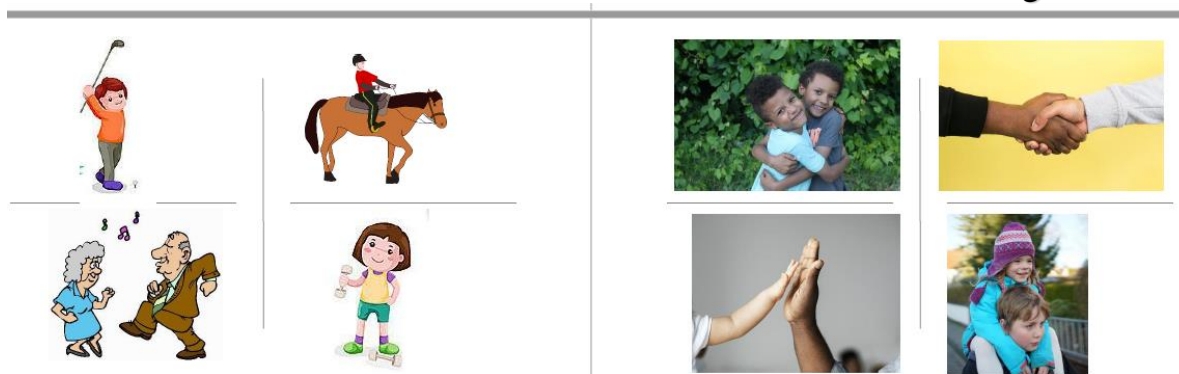
Appendix B – Vocabulary Comprehension assessment images

	   
	<p>Cereal</p>
   	   
<p>Twigs</p>	<p>Hooves</p>
   	   
<p>Splash</p>	<p>Handstand</p>
<p>Ann-Nem-Oh-Nee finds Adventure</p>  <p>Jessica Bosworth Smith Matthew Griffiths Lauren Nel</p>	   
	<p>Anemone</p>



Cross

Swimming

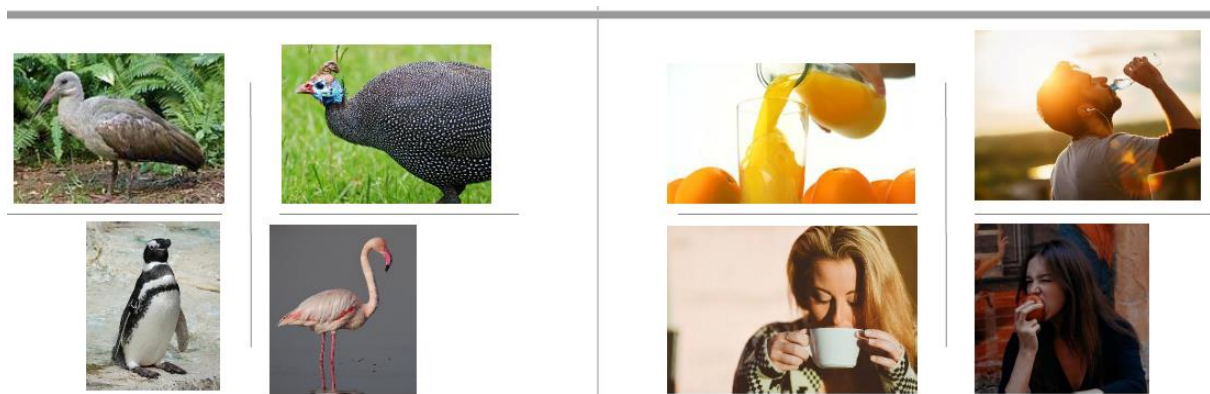


Dancing

Piggy-back



Shongololo



Flamingo

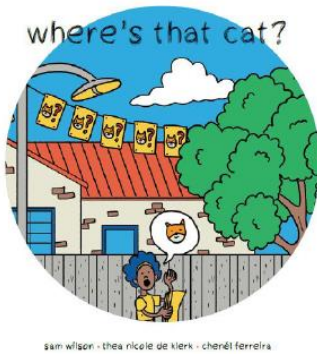
Sipping



String-phone



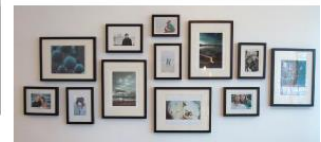
Tutu



Scientist



Magnifying glass



Posters




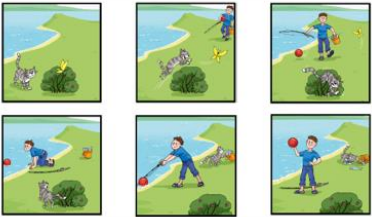

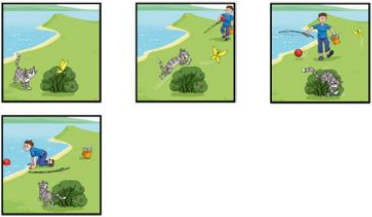
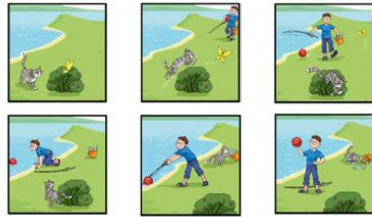
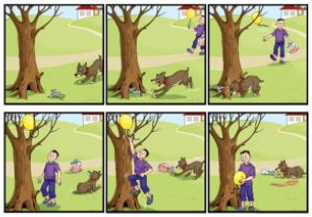



Tiny



Lamppost

Appendix C – LITMUS-MAIN: English

LITMUS-MAIN: English (altered for online delivery)

<p>Narrative skills assessment Re-telling story</p>		<p>Cat - retelling</p>
<p>1</p> 	<p>2</p> 	<p>3</p> 
<p>7</p> 	<p>8</p> <p>Dog - retelling</p>	<p>9</p> 
<p>10</p> 	<p>11</p> 	<p>12</p> 

Scoring Sheet DOG**Retelling**

Name of a child: _____

Date of Birth: _____

Date of Testing: _____

Name of examiner: _____ Victoria van der Hoven _____

Language tested: _____ English _____

Exposure to L2: _____

Kindergarten entry date: _____

Name of kindergarten: _____

SCORING Record form for Story Retelling**Dog**

Zero points for wrong or no response, 1 point for one correct response, 2 points for reference to both time and place.

Section 1: Story Structure						
	Response				Score	Comments
		Correct	Incorrect	Omitted		
1	Setting	Time and/or place reference, e.g. once upon a time/one day/long ago in a forest/in a meadow/by the road...			0 1 1 ⁵	
	Episode 1: Dog					

⁵ 1 point each for reference to *time* and *place*

2	Mental state as initiating event	Dog was <u>playful/saw</u> a mouse/wanted to play			0 1	
3	Goal	Dog wanted to catch/get/the mouse.....			0 1	
4	Attempt	Dog jumped forward/up ...			0 1	
5	Outcome	The mouse escaped/ran behind the tree....			0 1	
6	Mental state as reaction	The dog was disappointed/angry			0 1	
Episode 2: Boy						
7	Mental state as initiating event	The boy got <u>surprised/scared /disturbed / was sad about his balloon</u>			0 1	
8	Goal	Boy decided/wanted to get his balloon back			0 1	
9	Attempt	The boy was pulling/tried to pull the balloon down from the tree			0 1	
10	Outcome	The boy got his balloon back/again			0 1	
11	Mental state as reaction	The boy was glad/happy/satisfied to get his balloon back			0 1	
Episode 3: Dog						
12	Mental state as initiating event	Dog <u>saw / noticed</u> the sausages in the bag / was hungry / curious			0 1	
13	Goal	Dog wanted/decided to get/grab/eat the sausages			0 1	
14	Attempt	The dog was reaching for the sausages/took sausages out of the bag			0 1	
15	Outcome	The dog was eating the sausages/got the sausages			0 1	

16	Mental state as reaction	The dog was <u>satisfied/glad</u>			0 1	
17	Total score Story Structure /17					

AO = Action outcome sequence

AA = Action action sequence

GA = Goal action sequence

GO = Goal outcome sequence

GAO = Goal action outcome sequence

Eg:

- he wanted to save the birds (G)
- So it bit the cat's tail (A)
- And then the cat ran away and the chicks were safe (O)

	Section 2: Structural complexity per episode				
18	Number of AO and/or AA structures (1 point each)				
19	Number of GA and/or GO structures (2 points each)				
20	Number of GAO structures (3 points each)				
21	Total score structural complexity				
	Most complex structural level obtained				
	AO / AA		GA / GO		GAO

	Section 3: Mental state terms	
22	Number of perceptual/physiological terms, e.g. saw, hungry	
23	Number of emotional terms, e.g. cheerful, playful	
24	Number of mental verbs, e.g. thought, noticed	
25	Number of linguistic verbs, e.g. shout, yell, cried	
26	Total number of mental state terms	
27	Ratio: Total number of mental state terms/tokens	

Scoring Sheet CAT**Retelling**

Name of a child: _____

Date of Birth: _____

Date of Testing: _____

Name of examiner: ____ Victoria van der Hoven _____

Language tested: _English_____

Exposure to L2: _____

Kindergarten entry date: _____

Name of kindergarten: _____

SCORING Record form for Story Retelling**Cat**

Zero points for wrong or no response, 1 point for one correct response, 2 points for reference to both time and place.

	Section 1: Story Structure					
	Response				Score	Comments
		Correct	Incorrect	Omitted		
1	Setting	Time and/or place reference, e.g. once upon a time/one day/ long ago.. in a forest/at the lake/at the river bank...			0 1 1⁶	
	Episode 1: Cat					
2	Mental state as initiating event	Cat was <u>playful</u> / <u>saw</u> a butterfly			0 1	
3	Goal	Cat wanted to catch/get/the butterfly...			0 1	

⁶ 1 point each for reference to *time* and *place*

4	Attempt	Cat jumped forward/up			0 1	
5	Outcome	The butterfly escaped/flew away / the cat fell into the bush			0 1	
6	Mental state as reaction	The cat was disappointed/angry			0 1	
	Episode 2: Boy					
7	Mental state as initiating event	Boy <u>saw</u> cat chasing the butterfly/boy got <u>surprised/scared/disturbed/</u> was sad about <u>his ball?</u>			0 1	
8	Goal	Boy decided/wanted to get his ball back			0 1	
9	Attempt	The boy was pulling/tried to pull the ball out of the water			0 1	
10	Outcome	The boy got his ball back / again			0 1	
11	Mental state as reaction	The boy was glad / happy / satisfied to get his ball back			0 1	
	Episode 3: Cat					
12	Mental state as initiating event	The cat <u>noticed</u> / <u>saw</u> a fish/ was <u>hungry</u> / <u>curious</u>			0 1	
13	Goal	The cat wanted/decided to get/grab/eat the fish			0 1	
14	Attempt	The cat grabbed/reached for the fish			0 1	
15	Outcome	Cat ate the fish/got the fish			0 1	
16	Mental state as reaction	The boy was <u>glad</u> /happy/cheerful; the cat was <u>satisfied/glad</u>			0 1	
17	Total score Story Structure /17					

AO = Action outcome sequence

AA = Action action sequence

GA = Goal action sequence

GO = Goal outcome sequence

GAO = Goal action outcome sequence

E.g.:

- he wanted to save the birds (G)
- So it bit the cat's tail (A)
- And then the cat ran away and the chicks were safe (O)


	Section 2: Structural complexity per episode					
18	Number of AO and/or AA structures (1 point each)					
19	Number of GA and/or GO structures (2 points each)					
20	Number of GAO structures (3 points each)					
21	Total score structural complexity					
	Most complex structural level obtained					
	AO / AA		GA / GO		GAO	

	Section 3: Mental state terms	
22	Number of perceptual/physiological terms, e.g. saw, hungry	
23	Number of emotional terms, e.g. cheerful, playful	
24	Number of mental verbs, e.g. thought, noticed	

25	Number of linguistic verbs, e.g. shout, yell, cried	
26	Total number of mental state terms	
27	Ratio: Total number of mental state terms/tokens	

Appendix D – Invitation flyer

Do you want to
learn how to read
to your child?



- ❖ Follow a 4-week book reading programme at your own pace without having to leave your home
- ❖ Are you the primary caregiver to a child of 3-5 years old?
- ❖ Is your household English speaking?
 - ❖ Would you like to take part in a Stellenbosch University study on book reading?

FREE E-BOOKS AND E-TRAINING
PROVIDED

If so, RSVP to Victoria van der Hoven; 060 794 2187/
20183178@sun.ac.za

Appendix E – Parental informed consent form

Parental consent form copy and pasted from Google forms:

https://docs.google.com/forms/d/e/1FAIpQLSd_1SvRetwVmI71q3xYj1fLoq2tZEDnnSOy0vFPaH22NvqfPA/viewform?usp=sf_link

Title of the research:

The effect of an e-delivered dialogic reading programme, for middleclass caregiver-preschooler dyads, on the vocabulary and narrative skills of the pre-schoolers.

Description of the study:

You and your child/dependant are asked to participate in a research study conducted by Victoria van der Hoven for a Masters project in Linguistics, from the Department of General Linguistics at Stellenbosch University. As the study forms part of a research project for degree purposes, the results will be reported in the form of a Masters' thesis. The findings of the study may also be presented at conferences or in the form of journal articles.

1. Purpose of study

The purpose of this study is to pilot an electronically delivered dialogic reading programme in a Mid Socio-Economic Status community, to find out if it works and, if not, what improvements should be made in terms of e-platform, content and scheduling.

2. Procedures

If you and your child/dependant volunteer to participate in this study, we will ask you to do the following:

2.1 read through the information document sent to you

2.2 complete the Google forms screening questions

2.3 complete a Google Forms consent form for yourself (this one)

2.4 go through a Google Forms assent form with your child/dependant, to get their assent to participate should they be interested in doing so.

2.5 Once you and your dependant have given consent/assent, you will be asked to fill in a Google Forms background questionnaire on the child's health and language development

and on the household in which the child is raised.

2.6 You will be invited to join a WhatsApp group for all participants which will be to receive updates, information and reminders. This will be a broadcast group. Chats between you and me will take place via private WhatsApp or another platform of your choice.

2.7 After we have received all the forms, we will ask your child/dependant to partake in 3 short assessments (of vocabulary and story re-telling skills) via a video call format at a time convenient to us both. The test will include the child naming objects they see on the video call screen, or being asked to point out the object that is named by the researcher, or being read a story with visual cues and then asked to retell the story back to the researcher. Note that there will be no need for the researcher to see your child on the video call.

2.8 you will then be placed in one of 4 groups:

2.8.1 If you are placed in the business as usual group, you will not be required to do anything else until the repetition of the assessment tasks, 4 weeks after the first round of assessment tasks.

2.8.2 If you are placed in the play-group, you will be asked to do any play activity of your choice with the child (e.g. building puzzles, playing with toy cars or dolls, dress up play, building blocks), for 10 minutes per day from Monday to Friday, for 4 weeks in a row. This play activity will take place with toys that you have in your home; no special equipment will be needed.

2.8.3 If you're placed in the reading as usual group, you will be asked to read a book to the child for 10 minutes per day from Monday to Friday, for 4 weeks in a row. The book/books that you will read are those that you already have available to you. (If you want to introduce new books, you would be welcome to do so, but this is not required.)

2.8.4 If you are placed in the Dialogic reading group:

- You will be sent 5-minute-long instructional videos over WhatsApp on how to perform different Dialogic reading task techniques with your child, 1 video per week.
- Once you have gone through the instructional videos, you will be asked to perform Dialogic Reading tasks with your child/dependant for 10 minutes a day, at home, from Monday to Friday (we will send you the books to read in PDF format; you will just need to open them on your device) for a period of 4 weeks
- We will ask you to voice record on WhatsApp the 1st 10 minute session per week (totalling in 4 10 minute voice recordings over 4 weeks)

- While doing the tasks, you will be asked to complete a record sheet (on Google forms) of which books are read and when, with any comments or observations you have
- Once the 4 weeks are up, we will ask to do the same assessments, as done prior to the programme, with your child/dependant via video call
- Finally, you will be invited to partake in a focus group session to talk about and critique the training and the dialogic reading experience. The session will be done via a video-call forum, possibly WhatsApp video-call or Zoom. This will be facilitated by Victoria. These sessions will be audio recorded for later transcription and referral. If you do not wish to have your voice recorded, please let Victoria know.

You are welcome to take part in the rest of the study without taking part in the focus group discussion.

3. Potential risks/discomforts

The only risk would be with regards to confidentiality (please read section 6 below).

Whilst every effort will be made to keep the content of the focus group discussion and WhatsApp group confidential, including by having all participants sign a WhatsApp confidentiality agreement and every precaution being taken to maintain confidentiality, there is no way for the researcher to enforce adherence to the agreement.

The only discomfort would be minimal inconveniences (such as time etc.).

There are very few, if any, risks to your child by taking part in this study. They would be asked to do three assessment tasks via video call. Typically, young children enjoy the types of tasks we do with them, but it could be that your child does not enjoy them.

If you find that any part of the study causes you or your dependant emotional/mental discomfort, and you feel that you need to seek counselling as a direct result of taking part in the study, please let us know and you will be referred to a psychologist (free of charge, listed below) who also offers online counselling sessions.

Christine Nell – 082 554 6949

4. Potential benefits to the participant

The benefit to the child is with regards to their vocabulary level and story re-telling abilities, as the aim of this study is to increase their vocabulary level and story re-telling abilities. The potential benefit to yourself, would be that you receive training in Dialogic

reading tasks (which will be made available to those in the Business As Usual group, Play and Reading As Usual groups upon request), in order to better facilitate your child's language development.

5. Payment for participation

You and your child will not receive any payment for participating in the study, but you will receive a small online gift voucher as a thank you for participating in the study and to offset your data costs.

6. Confidentiality

When we write up the results of this study, you and your child/dependant will remain anonymous; if there is need for the use of names, pseudonyms will be used. Any electronic copies of forms (such as this form) will be saved onto a secure laptop, after which the copies on the researcher's phone will be destroyed. Only the researcher and her supervisor will be able to identify participants.

7. Participation and withdrawal

You and your child/dependant can choose whether or not to take part in the study, and you are at liberty to withdraw from the study at any point if you wish to do so. You and your child/dependant do not have to answer any questions or complete any tasks if you do not wish to do so and can withdraw from the study at any point without explanation.

If you or your dependant choose to withdraw from the study, you may do so without any ramifications to yourself or your dependant. Initially, any electronic documentation (forms etc.) will be downloaded and saved onto a secure laptop and hard drive, that only I (the researcher) have access to, and deleted off of my phone. Removing your data from the study will be easy, as I will just delete it off of my laptop and hard drive.

8. Future use of data

There is a possibility that the data collected and analysed in this study could be used in future studies, for example, a comparative study between communities with mid and low SES.

9. Identification of investigation

If you or your child/dependant have any questions or concerns regarding the research, feel free to contact Victoria van der Hoven (researcher) or Dr Frenette Southwood (supervisor):

Victoria van der Hoven, 20183178@sun.ac.za, 060 794 2187

Prof Frenette Southwood, fs@sun.ac.za

10. Rights of research participants

You and your child/dependant may withdraw consent/assent at any time and discontinue participation without penalty. You or your child/dependant are not waiving any legal claims, rights or remedies because of your participation in this research study. If you have questions regarding your rights as a research subject, please contact Maléne Fouché (mfouche@sun.ac.za) at the Division for Research Development.

* Required

Have you read the above information fully? *

☐ Yes

☐ No

Do you consent to taking part in this study? *

☐ Yes

☐ No

Full name *

Your answer

If you have any further questions, please don't hesitate to contact Victoria via the phone number or email address provided

060 794 2187 (WhatsApp is best)

20183178@sun.ac.za

Submit

Appendix F – Child Assent form

Child assent form copy and pasted from Google forms

https://docs.google.com/forms/d/e/1FAIpQLSf22m-QIMh9HEGvq3dqV88Fpi3ArEp_UCe94TS00RI00yPLeg/viewform?usp=sf_link

CAREGIVER TO READ/EXPLAIN TO CHILD

Title of project:

The effect of an e-delivered dialogic reading programme, for middleclass caregiver-preschooler dyads, on the vocabulary and narrative skills of the pre-schoolers.

Researcher's name: Victoria van der Hoven

Researcher's contact information: Email = 20183178@sun.ac.za, Phone = 060 794 2187

What is RESEARCH?

Research is something we do to find new knowledge about the way things (and people) work. We use research projects or studies to help us find out more about topics to understand them better and to find possible solutions.

This study is on reading. We want to find out if children can learn new words and learn to tell stories well if adults read to them.

Invitation:

We are inviting you to help with this research by playing a game in which you choose and name things one finds in and around homes. Then your caregiver will read books with you, play with you or just spend time with you. We will then play the game once more. If your caregiver is going to do book reading, we will get him/her to read books with you each week for 4 weeks.

We want to see if teaching your caregiver how to read books with you can help you learn new words and tell stories. We are asking you to help us with this research project because you will soon start learning to read, and you speak English.

Will anything good or bad happen to you if you help us with this study?

This study is going to be done at your home. You will hopefully learn some new words and enjoy spending time with your caregiver. If you are worried about anything or have any questions, please ask me about it, or get your caregiver to ask me. If you do not want to help us with this research, there is nothing wrong with that; just say so. If you decide you want to help us with this research but later change your mind, just let us know. You won't get in trouble if you say you don't want to help us anymore.

Will anyone know you are in the study?

All your information will be kept private, with some of the information being shared with my supervisor. But your caregiver will know you are in the study.

Who can you talk to about the study?

You are more than welcome to speak to myself or my supervisor if you have any questions or problems. Ask an adult to help you phone or email us.

There is a chance that what we learn about children's words and stories in this research study could be used in future studies.

Victoria van der Hoven (researcher)

060 794 2187

20183178@sun.ac.za

Professor Frenette Southwood (supervisor)

fs@sun.ac.za

What if I don't want to do this?

If you don't want to do this study, even if your caregiver has given permission, you don't have to. You will not get in trouble and no one will mind, just let us know and we will stop. You can stop at any time.

* Required

Do you understand this study? *

☐ Yes

☐ No

Are you willing to take part in this research project? *

☐ Yes

☐ No

If you said YES but later change your mind, that is okay. No one will mind; just tell us and we will stop. Do you have any questions that you would like to ask us? If you do, ask an adult to type the question here:

Your answer

Child's full name *

Your answer

Parent/carer's full name *

Your answer

Submit

Appendix G – WhatsApp Confidentiality agreement

WhatsApp confidentiality agreement copy and pasted from Google forms

https://docs.google.com/forms/d/e/1FAIpQLScOFsn1R1-nu071geJM7fT6FE1fBRy9QiCf_0rcuIO_BLDZSw/viewform?usp=sf_link

This form serves as the confidentiality agreement by the Participant, stating that the participant will not share or utilize any personal or private information or opinions from the WhatsApp group/focus group discussion created for this study.

Examples of information that may NOT be forwarded to, or shared with other persons or utilized for any other purposes:

- Phone numbers of other participants on the WhatsApp group
- Names of other participants
- WhatsApp profile pictures
- Personal opinions or views shared in the focus group discussion

If you are concerned about your own confidentiality on WhatsApp, then please try the following steps to increase your privacy on WhatsApp:

1) do not save any numbers from the group on your phone - this will stop them from being able to see your status updates

2) To change your privacy settings go to settings - account - privacy:

- then click on 'last seen' and change to 'my contacts' (this will allow only the numbers saved on your phone to see when you were last on WhatsApp)
- click on 'profile photo' and change to 'my contacts' (this will allow only the numbers saved on your phone to see your WhatsApp profile picture)
- click on 'about' and change to 'my contacts' (this will allow only the numbers saved on your phone to see your about description on WhatsApp)
- click on 'status' and choose who can see your status (either 'my contacts'/'my contacts except'/'only share with' - the last two options let you choose who on your contact list can see your status)
- If you feel the need to block or unblock a number, you can do so by clicking on 'Blocked contacts' and going through the list of numbers that you have blocked.

I agree NOT to forward or share with other persons, or utilise for any other purposes, any information seen, heard or visible on the WhatsApp group and focus group discussion made for this study

☐ Yes

☐ No

Submit

Appendix H – Background Questionnaire

Background questionnaire copy and pasted from google forms

https://docs.google.com/forms/d/e/1FAIpQLScZUIR9_vUxLVirzExm8vzu7FSDSzNA6wAH4xgUCyZYLRygQ/viewform?usp=sf_link

We ask the following questions not to see whether you qualify to participate in the study (you already meet the selection criteria for the study). We ask the questions to learn about the factors that influence young children's vocabulary growth and story-telling abilities.

Welcome!

We ask these questions below to allow us to interpret the results that we find from the group of children as a whole. Knowing the following things about you and your child will allow us to identify trends and tendencies in our data and will allow me to give an explanation for the results that the study renders. All information shared with us, will be kept private and confidential, with only myself (the researcher) and my supervisor (Professor Southwood) having access. (Information on confidentiality is provided in the consent form.)


If you do not want to answer a question, you do not have to. All answers are completely voluntary.

Please fill out your name and surname below:

Your answer


What is today's date?

Date

yyyy/mm/dd 

What is the child's date of birth?

Date

yyyy/mm/dd 

How old is the child? (In years and months)

Your answer

What is your relationship with the child in question?

- ☐ Mother
- ☐ Father
- ☐ Sister
- ☐ Brother
- ☐ Aunt
- ☐ Uncle
- ☐ Cousin
- ☐ Other - please specify below

If you answered 'other' to the above question, please specify here:

Your answer _____

What City/Town/Village do you live in?

Your answer

What is the main language spoken in the child's and your home?

Your answer

Does the child regularly hear another language or languages at home?

☐ Yes

☐ No

If you answered 'yes' to the above question, what other language or languages does the child hear at home?

Your answer

For how many hours does the child hear this/these language(s) at home in a typical day?

- ☐ 1-3
- ☐ 4-6
- ☐ 7-9
- ☐ 10+

Does the child attend a creche/daycare center/playschool?

- ☐ Yes
- ☐ No

If you answered 'yes' to the above question, what is/are the language/s spoken at the child's creche/daycare center?

Your answer _____

How many days a week does the child attend creche/daycare?

- ☐ Less than a day
- ☐ 1-3 days
- ☐ 4-5 days
- ☐ 6-7 days

How many hours a day does the child attend creche/daycare?

- ☐ 1-4
- ☐ 5-8
- ☐ 9-12
- ☐ 13+

Has the child ever had any hearing problems?

☐ Yes

☐ No

If you answered 'yes' to the above question, please specify:

Your answer _____

Has the child ever had any sight problems?

☐ Yes

☐ No

If you answered 'yes' to the above question, please specify:

Your answer _____

Is there anyone in the child's immediate family (parents/siblings only) with a speech/language difficulty (e.g. dyslexia)?

☐ Yes

☐ No

If you answered 'yes' to the above question, please specify:

Your answer _____

Does the child have a developmental disability (e.g. cerebral palsy, Autism Spectrum Disorder, Down syndrome, Foetal Alcohol Syndrome)?

☐ Yes

☐ No

If you answered 'yes' to the above question, please specify:

Your answer _____

Have you or anyone else had any concerns about the child's hearing or communication?

☐ Yes

☐ No

If you answered 'yes' to the above question, please specify:

Your answer _____

Is the child the 1st born of their mother?

☐ Yes

☐ No

How many older children does the Mom have?

☐ 0

☐ 1

☐ 2

☐ 3

☐ 4+

How many rooms are in your home? (Do not count the bathroom)

☐ 1

☐ 2

☐ 3

☐ 4

☐ More than 4 (please specify below)

If you answered 'more than 4' in the above question, please specify how many:

Your answer _____

How many of these rooms are used for sleeping?

- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ More than 4 (please specify below)

If you answered 'more than 4' in the above question, please specify:

Your answer _____

If the child spends long periods of time at another home, how long does the child spend at the other home address?

- ☐ Less than half the year
- ☐ About half the year
- ☐ More than half the year
- ☐ The child does not spend long periods at a second home

How old was the child's Mom when her oldest child was born (years and months)? (If you are the Mom, answer this about yourself)

Your answer _____

Does the mother of the child live with her husband or partner at home? (If you are the Mom, answer this about yourself)

- ☐ Yes
- ☐ No

Mom's highest education is... (If you are the Mom, answer this about yourself)

- ☐ No formal education
- ☐ Primary school incomplete
- ☐ Primary school completed
- ☐ High school incomplete
- ☐ High school completed
- ☐ University undergraduate degree incomplete
- ☐ University undergraduate degree completed
- ☐ Post graduate studies

Mom's work status is... (If you are the Mom, answer this about yourself)

- ☐ Not working
- ☐ Employed
- ☐ Self-employed (with employees)
- ☐ Self-employed (without employees)

Mom's current/last job title (please be specific and if you are the Mom, answer this about yourself)

Your answer

How old is the child's father?

- ☐ 20 years old or younger
- ☐ 21-25 years old
- ☐ 26-30 years old
- ☐ 31-35 years old
- ☐ 36+ years old
- ☐ Don't know

Dad's highest education is...

- ☐ No formal education
- ☐ Primary school incomplete
- ☐ Primary school completed
- ☐ High school incomplete
- ☐ High school completed
- ☐ University undergraduate degree incomplete
- ☐ University undergraduate degree completed
- ☐ Post graduate studies

Dad's work status is...

- ☐ Not working
- ☐ Employed
- ☐ Self-employed (with employees)
- ☐ Self-employed (without employees)

Dad's current/last job title (please be specific):

Your answer

How much money does your household get in a month? (Choose one, and include all salaries, wages, grants, etc)

- ☐ Less than R20k
- ☐ R20k to R40k
- ☐ R40 001 or more
- ☐ Don't know or don't want to say

How much does your household spend in total on food in a month? (Choose one)

- ☐ Less than R1200
- ☐ R1200 or more
- ☐ Don't know or don't want to say

This last question is to determine your LSM (living standards measure) value, which gives us further insight into your Socio-economic status. As I explained, this study is performed primarily in a MSES context, before being adapted for the LSES context. Please tick the boxes if you have them in your household or it is relevant to you:

- ☐ Metropolitan dweller (250 000+)
- ☐ Living in a non-urban area
- ☐ House / Cluster House / Town House
- ☐ Tap water in house / on plot
- ☐ Flush Toilet inside house
- ☐ Hot running water
- ☐ Built in Kitchen Sink
- ☐ No Domestic Workers or Gardeners
- ☐ Home security service
- ☐ 2 Cellphones in Household
- ☐ 3 or more Cellphones in Household
- ☐ Zero or One Radio set in Household
- ☐ Air conditioner (excl. fans)

- ☐ Have TV set(s)
 - ☐ Swimming Pool
 - ☐ DVD Player / Blu Ray Player
 - ☐ Refrigerator or combined fridge/freezer
 - ☐ Electric Stove
 - ☐ Microwave oven
 - ☐ Deep Freezer - Free Standing
 - ☐ Have a washing machine
 - ☐ Have a tumble dryer
 - ☐ Dishwashing Machine
 - ☐ PayTV (M-net / DSTV / TopTV) Subscription
 - ☐ Home Theatre System
 - ☐ Vacuum Cleaner
 - ☐ Motor Vehicle in Household
 - ☐ Computer - Desktop / Laptop
-
- ☐ Land line (excl. Cellphone)

Submit

Appendix I – Information Document

Information document copy and pasted from google forms

The effect of an e-delivered dialogic reading programme, for middle class caregiver-preschooler dyads, on the vocabulary and narrative skills of the pre-schoolers.

Researcher: Victoria van der Hoven

Breakdown of information document

- What is Dialogic Reading?
- Description of the study
- Participant requirements

What is Dialogic Reading?

Dialogic Reading is a shared book-reading activity that is used to promote literacy in young learners. It incorporates questions and conversation about what is being read.

In this case, the books will be English word books, to promote storytelling and conversation about what is going on in the book, between the child and the parent/caregiver.

(Whitehurst *et al.*, 1998, as cited in Murphy, Cook & Minami, 2019).

Description of the study

This research study will be piloting an electronically delivered dialogic reading programme in a Mid Socio-Economic Status community, to find out if it works. We are looking to see if there is an effect on the vocabulary and narrative skills of the children.

The research will be conducted by Victoria van der Hoven for a Masters project in Linguistics, from the Department of General Linguistics at Stellenbosch University.

As the study forms part of a research project for degree purposes, the results will be reported in the form of a Master's thesis. There is also the possibility of it being reported in a scientific journal and conference presentation.

The study will involve parents/caregivers going through some basic instructional videos via WhatsApp, on how to do Dialogic reading with their child and then completing 1 of 4 activities with the child.

Time frame

- The programme is 4 weeks long
- It will require you to do the task for 10 minutes a day, Monday-Friday.
- There will be a short assessment of the child's vocabulary before the programme begins, and again after, to see if there is an increase in vocabulary and narrative skill.
- You (the parent/carer) will be invited to take part in a focus group discussion (via video call) to share your experience and any critiques.

Participant requirements

To formally take part in this study, the following requirements would need to be matched:

- 1) You are a parent/carer to a child between the ages of 3 and 5 years old
- 2) Your child is English speaking dominant (home language)
- 3) You consider yourself to be of a Mid Socio-economic status community

*there is a screening questionnaire to fill out, if you are interested, to determine whether or not you fit the requirements.

Thank you for your interest in my research!

Contact us:

Researcher = Victoria van der Hoven
20183178@sun.ac.za

Supervisor = Professor Frenette Southwood
fs@sun.ac.za



Appendix J – Screening Questionnaire

Screening questionnaire copy and pasted from Google forms

https://docs.google.com/forms/d/e/1FAIpQLScio7tDinkw1KnNzoXiRUMJwB2FnCqbTSpQ3ebQ3si3-V8JFw/viewform?usp=sf_link

This short questionnaire will determine whether or not you fit the participant requirements for this study.

If you do, then I will contact you as soon as possible about the next step.

If not, then thank you for your interest in this study.

If you would still like to do the reading activities with your child, even though it won't form part of the study, let me know and I will send you the material.

The results of the study will be uploaded as a final Master's thesis onto the Stellenbosch University website, once completed.

If you know of anyone else that might be interested in the study, please pass the invitation on to them.

Are you a parent/carer to a child aged between 3-5 years old?

☐ Yes

☐ No

Is your 3-5 year old child/dependant English speaking dominant?

☐ Yes

☐ No

☐ Unsure

If you selected 'unsure' to the above question, please select one of the following options, that best describes your child/dependants use of English

- ☐ Only speaks English
- ☐ Speaks English and 1 other language, but uses English 90% of the time
- ☐ Speaks numerous languages, but goes to an English speaking school
- ☐ Speaks English at home, but goes to a different language speaking school
- ☐ Speaks a different language at home and at school, but can speak English when needed
- ☐ Doesn't speak English well
- ☐ Doesn't speak English at all

Do you and your 3-5 year old child/dependant identify as being in a Mid Socio-economic status community?

- ☐ Yes
- ☐ No
- ☐ Unsure

If you selected 'unsure' to the above question, please visit <https://www.eighty20.co.za/lsm-calculator/> and click on all the options that you have in your household. Then type here, the LSM value given to you at the top of the blue box.

Short answer text

Appendix K – Record sheet

Record sheet copy and pasted from Google forms

[https://docs.google.com/forms/d/e/1FAIpQLScTLsPIt-](https://docs.google.com/forms/d/e/1FAIpQLScTLsPIt-0UoF0MIESsDu3JdjCpPe8UE7WWDTWDaIrmw4VGQw/viewform?usp=sf_link)

[0UoF0MIESsDu3JdjCpPe8UE7WWDTWDaIrmw4VGQw/viewform?usp=sf_link](https://docs.google.com/forms/d/e/1FAIpQLScTLsPIt-0UoF0MIESsDu3JdjCpPe8UE7WWDTWDaIrmw4VGQw/viewform?usp=sf_link)

Please fill out each section once you have completed the book in question:

(Scale is 0-4, with 0 being the lowest/worst outcome, and 4 being the highest/best outcome)

Child's full name

Your answer

Book's title

Your answer

Child's willingness to engage in the reading session:

	0	1	2	3	4
Child prompted the parent to start the reading session	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Child was eager once reading session started	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Child didn't engage much, but finished the reading session	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Child had to be persuaded to take part in the reading session	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Child refused
to do the
reading
session

☐
☐
☐
☐
☐

Child's participation in reading session

0

1

2

3

4

Child actively
joined in
throughout the
reading
session

☐
☐
☐
☐
☐

Child joined in
every now and
then during the
reading
session

☐
☐
☐
☐
☐

Child visually
followed the
reading
session but
not verbally

☐
☐
☐
☐
☐

Child didn't join
in the session
at all

☐
☐
☐
☐
☐

Did the child make any remarks or comments about this particular book or session?

Your answer

How many times did you and your child read this book in today's session?

- ☐ 0
- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4
- ☐ 5
- ☐ More than 5 (please specify below)

If you answered 'more than 5' in the above question, please specify how many times?

Your answer

As the parent/carer, do you think the reading level was appropriate?

- | | | | | | | |
|--------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|---------|
| | 0 | 1 | 2 | 3 | 4 | |
| Way too hard | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | Perfect |

Submit

Appendix L – Focus Group discussion prompt questions

- Did you read to your children before this programme?
- Did you find it difficult to read with your children during this programme?
- Why (not)? (Prompts – time/other commitments/forgot/child didn't like it/child didn't like the books)
- Did the children enjoy it?
- How do you know?
- How did they react?
- Would you like to carry on with DR?
- If so, what would you need?
- How can I improve the programme? (Prompts – topics/difficulty level/length of books /illustrations in the books / length of daily reading sessions / number of reading sessions /duration of programme / content of instructional videos / frequency of contact with researcher /clarity of instructions)
- 10) Would you have any advice for me in terms of adaptations to the programme should I wish to repeat this study with parents and children in less well-resourced communities (where there are few privately owned books / less access to libraries / poor internet access / limited funds for purchasing mobile data)?
- 11) Anything else you would like to add? Positive/negative?

Appendix M – Transcriptions of Focus Group Discussions

Focus Group discussion #1 - Mom- DR3-F4 / Mom-D8&9-E / Mom- DR4-F4 / Mom- DR2-F5/Researcher (AKA Tory)

Start:

Researcher – OK, so my first question is “did you read to your child before this programme?”

And I’m pretty sure most of you did so...

Mom- DR3-F4– Yes definitely

Mom-D8&9-E – Yes

Mom- DR4-F4– We’ve been reading since in utero

Researcher – Say again

Mom- DR4-F4– I say we’ve been reading since in utero, that was pappa’s way of getting involved while I was pregnant

Researcher – Oh nice, perfect

Mom-D8&9-E – That’s so cool

Researcher – Yeah I’ve a couple of the articles I’ve been reading have talked about how it starts in the womb, so yeah, that’s awesome

Researcher – Cool ok so the next question is “did you find it difficult to read with your child during the programme? Uh like for other reasons like time, other commitments, you forgot, your child didn’t enjoy it, that kind of thing, were there things that made it difficult?”

Mom-D8&9-E – So, I can answer, so just I mean the one week we did have to move and there was a public holiday and so like to try and play catch up on those days was a bit challenging but in general we do read to them quite frequently in any event, so, you know like, you maybe don’t do it every day but I think it was, but also I think because it wasn’t long books it didn’t take, it didn’t take too long

Researcher – OK cool, that’s good to know, yeah I think the commitments for young kids obviously family commitments and things like that, the schedule is always changing and it’s a difficult one to you know make a regular thing especially with the whole Covid thing and

school not being like, following a proper schedule and things like that, yeah I think it makes a lot of sense.

Anyone else find it difficult?

Mom- DR3-F4 – I think the only challenge we ran into is we, we always read at bedtime so we integrated it into that um and the only challenge I had was sometimes she was like we read that, no I want to read something different like reading the same book multiple nights, but thankfully they were quite short so it was easy to kind of slot that in with some other books

Researcher – yeah I can completely understand that I, a couple of the parents had said to me how they couldn't get the kids to read it again because they kept wanting to read something else um and I completely understand that but I think for the purpose of the programme I think some of you have probably figured it out like the difference from the beginning to the end with the child's even just the child's interaction with the story you know like the more they know the book the more they're going to interact. But ya I completely understand so I do think maybe the maybe doing it for a whole week was a little bit too long I don't know I think that's something that will...

Mom-D8&9-E – I mean maybe something to investigate is maybe doing so say here's like 5 books, but then do the one book every Monday the one book every Tuesday and so on, just to give them a little bit of a break because by like the end of the week, my oldest daughter would be able to repeat the whole book back to me basically so and she like verbatim was saying the book back so I mean I thought it was the right reading level for her but just because she had heard it like she knew...

Researcher – Yes that makes a lot of sense, that's actually a very good idea because it's not necessarily the technique having to change but the book variation cause there they were supposed to be all the same level that's what I tried to get so it shouldn't matter as long as you were able to get the technique across that should be fine so, ya that's actually a good point, thank you. Anybody else have something to say?

Mom- DR2-F5 – Ya I was thinking that Zoey was also going to complain about reading it every day and strangely enough she didn't, so that kind of took me by surprise, um but yeah she definitely after reading it the first time and recording it for you like after that she got quite into it I think maybe after the first book, she was moaning by day 5 I think, but I said oh this is the last day and we'll go to the next book on Monday and in terms of challenges, I think if she was

very tired like she has ballet on the one day so that day was quite hard to do, and although we read every night, um we sometimes like tonight, if they've gone to bed quite late, um we end up reading like a little Miffy which is very short so it's literally like a 4 minute read, um so spending 10 minutes on a tired day was sometimes challenging in the end I ended up skipping, you know, you could make it up on a different day I ended up skipping a few of those and making it up on the weekend.

Researcher – Yes, no, of course, I guess that's something you're never going to be able to control for is how the child is going to feel on the day and I guess you guys probably realised from the assessments was like the first assessment maybe went well and the last one didn't go just cause it was a bad day or whatever but yeah...

Mom-D8&9-E – Or a bad two days

Researcher – Shame

Mom-D8&9-E – My one daughter was just obtuse like she just did not want to do the final assessment she was ...

Researcher – Ya she wasn't keen

Mom-D8&9-E – No and like the thing was like she knows all the stories she knew all those things and she still told us about the stupid cat story afterwards and I'm like that helps, that really, really helps!

Mom- DR4-F4_ – Tory for us, just in terms of, we also read at bedtime so the challenge there was like some days she was super tired and went to bed early and then we'd have to do a catch up and similar to the others in the beginning it's fine lets read it two or three times, but as soon as it gets to Wednesday it's like 'why are we reading this again, can I pick another book?' Or maybe refusing like I said refusing to answer questions, so she'll role reverse and then she'll ask me questions like we've done this already so .. that was the only challenging thing, really by Wednesday it's like oh no, it's like the third time and we're not getting another selection so obviously I would try to say you could choose another book after, after this, so that's why she wanted to go through it very quickly also, like let's just get this one done so we can read the others

Researcher – Fair enough yeah, no I do think that's no yeah, I hadn't thought about maybe doing the different book on each day, so, that's actually a very good point so I think to keep

the variation in the interest in doing the reading, not that like they're not interested in reading, because all of your kids seem to be very interested in the reading the actual content of the story to keep them interested it's a good point yes.

OK so next question I guess, is "did your child enjoy the programme and how do you know and how did they react?"

Mom- DR2-F5 – Um ya Tory I briefly mentioned to you when we did the assessment earlier but just for the purpose of the recording um, Zoey has in comparison to her older sister not been very keen on reading in general, so she would often just play with toys when it's bedtime or kind of slot in half way through a story so um, sometimes she'd be interested but I would say she was maybe like a 70%er rather than Amy who would be a 95 no 100%. She always wants to read so this was very different although she didn't necessarily remember in time to remind me; 'oh mom we have to do the reading' or 'Tory's reading', but as soon as I would say it's time to do the reading she would be excited and come and jump on my lap and just generally be enthusiastic about the books and generally about answering the questions obviously like I mentioned when she's tired, not so much, but a dramatic improvement um, not sure if it's specifically related to the programme or because she knows it's you, or you know the extra specific time that um we spent together doing it but ya it was definitely better than just going to read a normal story so ya, very much enjoyed it.

Researcher – I had mentioned to Mom- DR2-F5 in when we did the assessment just after was something else, so it's Dialogic Reading (DR) is the type of reading that we're doing and something else they have used DR to like, to look at is the relationship between the mother and the child and it has been seen to improve or strengthen that relationship, so it is something they use quite frequently with lots of different things so like attention span, vocabulary and narrative skills which is what we were looking at. The relationship between the mother and child and things like that, it's a nice way to kind of do a little bit of everything and like you said its um she seems to well like you say you don't know if it's just because of the programme but she seems to be a little more enthusiastic, so it's I think it's fun for them to interact a little bit more and to think about reading in a different way cause it's not just you know following the page or following the pictures so it's a bit more interaction.

Anybody else. Did the child enjoy the programme.....?

Mom- DR4-F4 – Maia enjoyed the programme. Initially she was like who is this Tory so I made her teacher Tory teacher Laurens assistant that's why she said to you at the end 'oh

teacher Lauren doesn't know that you're working with her!' Um so she always wants to know where does this kind of fit in because she's thinking is it an extra mural or what is it because obviously you started off with the assessment first so she kind of figured out that this is not just normal reading and then because she had the books before, and you added the words also so she knew it was different um and also because normally she chooses the books so it was like ok so I had to say 'no, this is teacher Tory's books' so we had to do remember we can choose something else after, also she enjoyed the programme and like she said at the end like are you going to give her more work and I think she didn't realise that dialogic prompt and things like that but like I said, closer to Thursday, Friday she would start then doing the prompts herself when she's recalling or retelling just because she was like this is what mom does so let me also do it so ya I'll be keen to see if we take a different book um because we haven't done ya, we read yesterday morning the catch up for Friday, so I'll see tonight I'll do a different book and I'll see if she still continues with the prompts and stuff.

Researcher – Awesome, anybody else?

Mom-D8&9-E – I must admit, like both my girls really enjoyed the books, they never so there was only like one or 2 days if I remember correctly that they actually said to me we need to do teacher Tory's reading or can we read teacher Tory's book but all the other times I would take or I would say ok guys just before bedtime here's the book let's read the book and then because both of the sisters were in it, the one you know whoever got first and then the second one would say 'oh it's my turn, it's my turn now' because I would do it separately in their rooms um so I got to read it twice every night! But um but so they really liked it when it was going or when like when they were reading but they wouldn't necessarily prompt me to start it if that makes sense. Um but ya they, they I think I've been doing a little bit of reading like that without knowing that that was its name or that's the technique because that is generally like we will ask them questions or we'll say to them tell us what happens on this picture or things like that or um so for them it wasn't too much of a change from how we've already I think been reading but because they knew somebody else wanted them to do it they do generally like to please, except for like the assessment. But ya, they generally like to do that so you know so it was like let's read teacher Tory's book once I'd said it's now time then then it was like focus let's do this

Researcher – That's good, Mom- DR3-F4?

Mom- DR3-F4_– Yeah and I mean Amelia definitely enjoyed it. I think, so she didn't necessarily we didn't talk about it necessarily in terms of it being a programme, I just slotted them in with her reading in the evening and yeah like someone else had said, I realised that I was doing some of that already. My mom um is a primary school teacher so I think that is kind of like how she read to us and so um yeah but it was nice to have to think a little more consciously about doing some of those techniques and I think I'll continue to do them definitely yeah I mean it definitely helped her engagement with the books be a bit better.....

Researcher – That's good to hear.

Mom- DR3-F4_- ... And she really liked the stories, particularly the shrinking one, she really got, she really got a kick out of that.

Researcher – Anyone else? No? then I'll move to the next one, I guess you've basically just answered the next one is "would you like to carry on with DR, and if so, what would you need, from me, or in general what would you need from me to carry on? Or do you think you can just do it?"

Mom- DR3-F4_– I definitely think we can just keep going with it.

Mom- DR4-F4 – Yeah, I think um for me ya cause I naturally do it, um I think it would be nice to give maybe, some tips or like a one pager so I can also share it with my husband so that he can also give it a try cause obviously I didn't share it with him because I thought it would be easier if the one parent does it because then there's consistency as well so um including with sharing with grandparents or like she's got older nieces and nephews who could also do it cause they also share story books so I know they read together so it would be like cute if we could also get some you know, some consistency across whoever it is doing certain reading time with them.

Researcher – There are some people, I saw some studies in America, where they don't just do it just one adult one child they'll do it one adult 2 children and then it will be the interaction between the two plus the interaction with the book which is something else you can do.

Anybody else?

Mom-D8&9-E – A one pager would actually be really useful cause I think similar to the other moms, I did all the reading by myself so my husband doesn't necessarily know all the techniques and it would be nice to share that.

Researcher – Yes, ok great, yes that’s a good pointer, thank you. Mom- DR2-F5?

Mom- DR2-F5 – Ya I think generally Andrew is the more um, like he’s the more, he takes more time when he reads, so I’m kind of like ok I still need to go clean the kitchen so let’s like do the reading and lets go on so this has forced me to like slow down and um I definitely didn’t do probably most of those techniques unless I would like read in the afternoon and so he definitely, like especially the ‘wh’- questions and like completion he would do so for me it was all kind of new and actually eye opening in a sense to read it from that perspective cause you could obviously see it had a good effect you know and um especially from that age, cause I think I was assuming that type of stuff is only really for older kids but it was good to see that a 3 year old could do that and ya I agree the one pager would be great because it’s actually something like, even thinking back now I can’t quite remember what the first technique was so kind of slotting it in your book case and like you can laminate it or something and you can just and you know those little prompts you gave us in the beginning just explaining it like distancing or you know short explanation and also something that you on a pdf you could share or even share with teachers in a classroom, I’m sure they might know that ya.

Researcher – Yeah, that’s definitely something I can now do and think about so ya.

Mom- DR4-F4 – Just on that Tory something I was thinking about when I was watching the videos obviously you’ve backed it up with research and you gave references, but I think like, that would throw my husband off so if you create those different your target audience like for parents or for teachers and tweak it so that it’s kind of more in a layman’s everyday language versus when you’re doing it with educators or people that you know are understanding the academic language.

Researcher – OK yeah good point, yeah I think I forget that not everybody is still at university so.

Mom- DR2-F5 – And not everybody is studying linguistics!

Researcher – Yes, that too, not most people don’t know what it is so that’s a good point. Mom- DR3-F4 do you have anything to add?

Mom- DR3-F4 – No, I mean I think I love the suggestion of having something to reference and being able to share with other adults in their lives [interruption by child]

Researcher – OK so from that then I would, I’m going to move to the next one, yeah so I guess “how if you think I can, how can I improve the programme? So I’ve just got some prompts here of topics of the books, the difficulty levels of the books, the length of the books, I think you guys mentioned earlier the length of 10 mins maybe being too long if it’s a tired day, the illustrations in the books, length of reading sessions, um the number of reading sessions a week, the duration of the programme, so my programme was 4 weeks, um but there have been other programmes that have been done for research purposes that were 8 weeks or 12 weeks so mine was supposed to be in a shorter period of time to see if it still has the effect of the longer ones just in a shorter period of time. Um and then you guys mentioned the content of the instructional videos so Mom- DR4-F4 you mentioned how maybe make it into more understandable terminology and things like that and then also a prompt of the frequency of the contact with me for example, so the person leading the programme, was I in touch with you enough was it too much, that kind of thing, and were the instructions clear? So yeah, how could I improve the programme?

Mom-D8&9-E – So just the one thing I found, was that my four year old turning 5 she so, as I mentioned earlier, like by the end of the week she could complete the book almost verbatim by herself so I found for her and for the questions didn’t really, it went from too hard to perfect and for her I thought for her the books were maybe a little bit too easy. I mean we’ve been reading more difficult books along the way, so for her it wasn’t, she liked it because it was an activity and she was doing this for teacher Tory but I don’t think that it was necessarily challenging for her mind to kind of say you know what she still did not remember the word hoof, for 4 days and then only on the 5th day she got it so there was some words she didn’t remember or didn’t know and then did get there but for most of everything else it was kind of like she lay next to me while we were reading it and it was literally she was telling me the whole story I didn’t even like, she would turn the page cause she would know.....

Researcher - OK so you’re saying I could have maybe um had books that were a little bit more challenging for the older, because obviously the age range was 3-5 so having some books that were a little bit above 5 to give them a challenge, OK yeah OK I see what you mean.

Mom-D8&9-E – Yeah, cause so like for my nearly 3 year old these books were absolutely perfect like she was learning new words, her vocabulary has improved on the words that she is speaking about she you know, but for the 5 year old it was just like cool I’m doing this for teacher Tory so and I like to do things and that’s why I’ll give it my best.

Researcher – Yeah, good point thank you.

Mom- DR3-F4– No, I was just going to say, with the 10 minutes, I think that was a little bit hard because the length of the books was quite short so I think if yeah sort of what you're saying my daughter is 4 and a bit and we generally read slightly longer books so I think if we could have had one book that stretched for, like most of the 10 mins that probably would have worked a little better for her because she didn't always want to read it multiple times.

Researcher – Yeah, good point, so maybe a wider variety of books to maybe to choose from, so longer ones ya maybe to give the parents the choice of, I don't want to say difficulty because it's not the difficulty of the book, but yes I..

Mom-D8&9-E– I think just age, so 3-5 there's quite a lot of development that happens between 3-5 so you know, having a book for 3 year olds, 4 year olds, and 5 year olds maybe

Researcher – Yes that's definitely something I realised from doing the assessments and listening to the voicenotes um was the difference between for example Sarah and then someone who is maybe already 5 almost 6 it's obviously a very big gap and a lot happens between then so ya that is good point so ya.

Mom- DR2-F5 – Think that, just to put it into context though, I think when you repeat a book frequently you or the child is often they tend to get know the words then anyway we have a book 'the lady bird herd' and Amy's kind of reading it by herself and like literally word for word because over time we've read it like 5 days in a row and now knows the words but I'm just saying like after repeating something frequently they do tend to grasp onto the words so I think um the even if you didn't change because I'm sure it would change your research or the data if you'd mix it up too much but if you'd had to swap the days out that would definitely kind of throw a curve ball so that they wouldn't just be able to memorise the words so ya that would probably be my suggestion as the earlier suggestion of um swapping the days. Other than that, I can't really fault um any or suggest anything differently, I think we did mention um kind of the assessments at the end of the day, I found sometimes like I wasn't exactly sure how to um respond to the little questionnaire, um like I often just wanted to have a 'yes / no' because it was to me like I couldn't really say a 2 or 3 it was either a 4 or 0 but I think that's hard to phrase stuff and understand it and ya.

Researcher – And those were more for my research purposes and less for the, if I was for example to do the programme outside of research they wouldn't necessarily have those forms to fill in so, ya.

Mom- DR2-F5 – Yes, other than that ya it was a good reminder that you had to do the readings so touching base with you and um can't remember all the other stuff you mentioned nothing jumped out to me, except for those mentioned, thanks Tory!

Researcher – Thank you Mom- DR2-F5.

Mom- DR4-F4 – So for me Tory, I think um like I said when you do the programme to maybe have also not only the age appropriate level like kind of having an outline, a brief outline of the benefits maybe, some people will just see its dialogic maybe and as gross benefits versus your being specific like you mentioned now around the attachment to kind of motivate people on certain aspects attachment vocab memory story recall so you kind of make it explicit, and then within each story maybe also kind of elaborate on things that um people can focus on like with vocab if it's a noun or adjective if its language statements versus questions or whatever um and then also kind of like even inspiring creativity like why don't we write our own story or whatever just something that can also build on the programme so it's not just feeling like we read and then we ask you questions so that also like you said now, with the assessment so people kind of know what they need to be building on and not just reading and doing the prompts but actually like we're building language we're building vocab you know, recall story telling or whatever so that they can be intentional when doing the reading. Um I think also to make it very inform us that with the assessment time like make sure your child is..... you know, so for us our assessment was yesterday, so it was playday so to make sure the time of day even when we're doing the reading programme you know the time of day that it's happening or the assessment you know is quiet you know kind of set the time for what is needed in the assessment space or reading space, like so that's why sometimes like I said, bedtime didn't work for us especially if she had a bad day or was very tired or whatever, kind of creating that literacy environment or the assessment environment.

Researcher – Yes, no, definitely, great thank you. Ok so there are, let me just check my questions so umm, so then I've got the one which is "would you have any advice for me in terms of adaptations to the programme should I wish to repeat this study with parents and children in less well-resourced communities?" Um because originally just to give you context, before Covid happened I had wanted to do this programme with Low SES communities to train

the mothers or the caregivers in the techniques to help both them and their children to increase their knowledge and vocabulary and things like that so, any tips or thoughts on how I can maybe adapt it to be LSES so low social economic status community friendly?

Mom-D8&9-E – Zoom would be an issue, I think. Cause not everyone would have access to that but um then maybe also just I think you reached out enough to us, you were very like every day you did say to us please remember to do your reading or please shout if you've got any questions, but sometimes people may not reach out to you because they don't want to seem like they don't know or something like that, so maybe just I mean those videos you did at the beginning of the week when you showed us how to do the technique, maybe just resend it out in the middle of the week again, you know I don't think you need to do a new video, but maybe just to prompt someone if they, you know rather than having to scroll up scroll up to find it again and see but ya otherwise you could do WhatsApp videos because WhatsApp is generally user friendly to everybody

Researcher – Yeah...

Mom-D8&9-E - I think that would be the only suggestion, because I think you were very helpful, and it was nice so...

Researcher – Thank you, anyone else?

Mom- DR2-F5 – I think um, not everyone will have a device that they can properly see the book on so I would think that you would have to have a printed format and then I also think again if it's a printed format it's also helpful if you have to give say you know you take the one book, exactly like the video but not necessarily in a video format and um say example 'wh' - questions and maybe give page reference numbers, so you can have on page 1 you could ask this question, on page 2 you could ask this question or point out the pictures so if someone could literally have like a printed out pack and you could work your way through the pack.

Researcher – OK, yeah I see what you mean ya.

Mom- DR2-F5 – Ya, so then they wouldn't have to rely on devices because if I think, both people that work for me, they have phones, but the screens are cracked or the screens are small and ya they might have access to WhatsApp for assessments but I don't, I don't always think that they might not be able to physically read on it so or follow instructional videos on it or something like, so printed format, old school is probably the way to go. And there are places like 'Little Libraries', I don't know if you have heard of Little Libraries, but they are, you can

Google them or they are on Facebook, they take books to LSES creches and so if you did have to partner with someone or find out more about what's actually needed you could contact someone like that I also have a social worker friend if you were interested, I could put you in contact with.

Researcher – OK, yeah, thank you. So for a little bit of background for you guys, initially I wanted to go face-to-face and do the training with the caregivers at the creche but then obviously Covid and we weren't allowed to interact with people so the reason I went from LSES to 'Mid' which is you guys is because of the access to the data needed for zoom and downloading the material and videos and then also access to the devices to be able to read so yeah it's definitely access and availability of those things is something that would have to change for a different community so yeah, thank you.

Mom- DR4-F4 – Yeah, so from myside Tory, so I work in LSES so we do use WhatsApp um but obviously we have to make sure it's data light, you have to make sure your content is data light and we also use data free, so there are other apps like Moya app similar to WhatsApp, but it's completely data free, so anything you share or post on there is data free, so that's Moya, and then also like we use 'YouTube Go' is data free and data light and um you can post your videos on there, just making sure its data light and data free if you are going tech and then also like your training be specific to make sure that you use basic language obviously because maybe people are not English 1st language so you do ESL focused kind of language and then also making sure I think one of the moms said not everyone is always going to say I don't know so even my students they won't tell me until submission date has passed and they said I didn't know what to do, so kind of forcing that engagement of do you understand in a 1-1 setting, can you give me an example? So kind of role playing it back or explaining it back or the demo for example like you said around the voicenoting um, to make sure they on track because sometimes they're not going to tell you that they don't understand and then also with the resources ya, there's obviously benefit to having the print every now and then, but obviously with the new normal, I'm not sure how to how that's going to go but also what you can do is look at certain obviously the books you chose, was bookdash and very relevant, so making sure they're contextually relevant and obviously you included Aviwe and then Maia is like; 'no her name is Maia' so just making sure you're contextualising.

Researcher – Yeah, a lot of the research that I've looked at is obviously American or European based so the stories or the narratives were just not relevant, even to the most affluent

Europeanised that's not even a word, South African child, like if you grow up in South Africa there are just somethings you're never exposed to so yeah it's definitely contextualising it to the community, to the society that they grow up in ya and making it more relevant to them and making it easier for them to understand and to follow, um ya. OK is there anything else because we're almost up, I think there's one minute left on this chat before it decides to leave us. Anything else you'd like to add?

Mom-D8&9-E – Let us know how your masters goes!

Mom- DR4-F4 – Yeah, share the link.

Researcher – Yeah, I'll let you guys know ...<short discussion of where the research will be available>.... Thank you to everyone for participating um and taking time out for this.

Focus group discussion #2 – Mom- DR7-F3 / Mom- DR11-F3/Researcher (AKA Tory)

Start:

Researcher – So ya, basically this is just to find out what you guys thought about the programme um how your child did, how you thought they did, what you think about the content, the delivery, all of that kind of thing, so I’ve got a couple of questions, so I’m just going to read them and you can take turns in answering. If you don’t want to answer you don’t have to. The first one is “did you read to your child before this programme?”

Mom- DR7-F3 – Yup

Mom- DR11-F3 – Ya

Researcher – I figured ya, after I wrote that question down the first time, I thought I’m pretty sure people won’t join if they don’t but yeah. The second one was um “did you find it difficult to read with your child during the programme? Is why and why not?” And prompts are kind of like; time commitments, other extra mural things the kids may be doing taking up the time, um you forgot, didn’t have time, the child didn’t like it or the child didn’t like the books, um they’re just some examples of prompts so yeah “did you find it difficult to read during the programme?”

Mom- DR11-F3 – I didn’t find it difficult, Shannon was always super excited to to always get as soon as I took my phone out or the little tablet she’d get very excited because she’s, also I mean both my kids before this whole Covid story never really had access to um the computer and even my phone, I’m always, I’m super old school when it comes to that, where I want to do, where I keep technology for later. So this has almost been like a little bit of a privilege for her that she gets to listen to a story on a tablet or device you know, so she was super excited and we tried to stick to our normal bedtime um routine with the story but also in the afternoons I would also, if I was resting I’d say come Shanny come come lie here with me and then we’d read together like that, so she was super eager to take part and read and listen each time.

Researcher – Oh I’m glad to hear that, how was Isabella, **Mom- DR7-F3**?

Mom- DR7-F3 – She was also sort of very excited loves look she loves books, loves being read to any day so when you say lets read a story but she loved the books that you sent really just enjoyed them cause I was I did wonder if she would be happy as much as she likes the repetition often after one or two nights she wants a new story, so I was little worried about kind

of going OK you have to read this 5 nights in a row and she actually, with the exception of the one, the ann-nem-oh-nee one she was very happy to read them all. In fact, last night, I read Where's That Cat again! So ya, and I also stuck to we read before bed, so I did stick to that there were one or two nights when she was quite tired though and I wondered how much that sort of affected her, because those were the nights you most probably saw, she wanted to do it but didn't participate, was very happy just to be read to, but on the whole she loved it and on the occasion we'd read in the afternoon and ya she, as I say we read it again last night and she would sit at dinner and tell us about the book so and what she'd read and which one she wanted to read the next night, so ya she really enjoyed it.

Researcher – Oh sweet, that's very good to hear thank you. I appreciate the feedback. Ya the other moms..... sorry?

Mom- DR11-F3 – Oh no no no, ya I know I think also just to add to our side, I mostly read to my daughter and my husband mostly reads to my son, but there are times where I read to both of them and then I just have to read what my son wants really because he then loses interest so she I think it was really nice that she could actually listen to more sort of age appropriate books or stories towards her because at the moment we've been going through Roald Dahl with my son who absolutely loves it, like James and the Giant Peach and all that but for her it's a little bit beyond her age at this point, I think she wasn't really following all the time so this was, she loved like this one-on-one just with an age appropriate book for her.

Researcher – Yeah, one of the comments from yesterday's session was the one lady had said that her child, some, I can't remember if she pin pointed which books it was, but she thought maybe the books because I think she said she - oh it was the lady who had, so she did both of her children both girls and the one has just turned 3 and the one is at the end spectrum of 5 so the difference between them is obviously quite a lot so she was reading to the younger one and the books were challenging her and you know and she was really enjoying them, the older one was enjoying them but it wasn't really a challenge for her so what she had said to me was that maybe having more, maybe a narrower age range for the books, if you know what I mean, just to make it more like you say, age appropriate um so yeah, that's something they said yesterday.

Mom- DR7-F3 – Yeah, well that's interesting because my son is 6 and he was desperate to do it, I remember I actually asked you if he could and you said no because of the school and stuff, but the rule then became he was allowed to listen he wasn't allowed to say a word though, because he tends to interrupt and stuff and he actually loved them as well so um, but he's also

much more into these days sort of we must read about dinosaurs and oh I don't know, every kind of factual book he can get his hands on, so I think he may have enjoyed going back to the stories but yeah, I think **Mom-** DR11-F3 like you say, it was nice for my daughter to have her books and it was her treat and her special evening and yeah my son could listen but they weren't his, and it was all about her and she loved that.

Researcher – Yeah, so something else they used Dialogic Reading (DR) for or they've looked at while doing DR is they've done attention, so the attention of the child, they've also done the relationship between the mother and the child and seen how it actually influences the relationship. So my, so another family member who also did it, she was there yesterday, so she had said that before the programme, Zoey her little one, wasn't really keen on the reading and she didn't want to come and lie down and read the books and she'd just go off and play with her toys or you know chitter-chat to herself um and she said now, because of the programme she's has dedicated mommy-daughter time and she's really loving the stories and she's asking for stories which she never did before and so that's something they said, the mother-daughter relationship or even just mother-child or caregiver-child 'cause it didn't have to be the mother that did it, but um yeah, that's something they've seen that's a positive influence on the relationship so.

Mom- DR11-F3 – Definitely, I also feel like, I mean we were reading before but yeah you know there would be some like I said there would be some nights that I'd read with my son with both of them and then she'd lose interest but um I feel like because we've been sitting together every single day now, just her and I, it has been a special little bond that, you know ya, that I also said to my older son you know this is not for you, you can go do your own thing now, sometimes he would. He did want to listen in every now and again but he also enjoyed it here and there, but it was sort of I also just wanted it to be just mine and her time together.

Researcher – So then the next question was, I guess we've maybe kind of covered this, was “did your child enjoy the programme and how do you know and how did they react?” so ya some of the other moms had said things like they would ask for the books so initiating the story reading, or reminding mommy that it's time to read a book or ya, how did your guys do?

Mom- DR7-F3 – Yeah so Isabella never asked for it, but whenever I said it was time to read she was super excited and would go running off, so we read on a tablet, she'd go running off and find the tablet and um yeah the baby-sitter came the one night we went out so I'd made sure I read it before, and she made the baby-sitter read all four stories to her. I don't know how

the baby sitter felt (laughter) so ya she loved them and like I say, she's asked for some of them since and um ya and when I told her you were going to send more stories she got super excited today..

Researcher – Oh bless, yeah.

Mom- DR7-F3 -so yeah.

Researcher – And then asking the different techniques, how did they like take those, because I know some kids are not so keen on repeating things that have happened in the story or relating it to their own they'd rather like finish a sentence or you know how did she do with that?

Mom- DR7-F3 – Um ya Isabella loves the finishing the sentences but she does that normally to be fair, she's always done it, my sons always done it, I don't know why, but she wasn't so keen on me stopping and asking questions during the story. She'd kind of say read that one now mom like carry on so if I waited and asked questions at the end or at the beginning she was happier, but she'd get a bit frustrated if I asked in the middle.

Researcher – Yeah, OK.

Mom- DR11-F3 – Yeah, I also agree there, mine was she was also loved completing the sentences she was almost quite proud that she could, she never really used to, although she goes on and makes up her own stories here and there and everywhere but she never used to really do that, so I think she felt quite proud of finishing the sentences and what have you and then also ya also didn't really like the questions in the middle of the story, so learnt to rather ask it you know, every now and then or if we'd read it 2 or 3 times then, each time I'd ask different questions and sort of um widen the gap a bit not like ya.

Researcher – Yeah, 10 questions a page yeah!

Researcher – OK cool, great. So the next question is “would you like to carry on with DR and if so, what would you need?” So for example, yesterday the one lady had suggested maybe putting together a little pack for the parents so you've got a physical copy of something to go through the techniques, instead of having to go and find the videos again, have like a typed out version um so something you can also share with other family members so that if they want to read with the kids then they can also do the same thing, so that is something that someone came up with yesterday, um so ya, “would like to carry on with DR, and if so, what would you need?” Is the question.

Mom- DR11-F3 – I think exactly what you’ve just said now um that would be because I have a little playschool that I run and that would be amazing to do that with all the kids actually, um and uh basically exactly that, just maybe a better for more children with a hard copy or ya probably a hard copy is better and then um ya almost like a summarised version of the different techniques, um I suppose if you are going to introduce it to new people it would have to be a little brief description but yeah, I think that it’s easier then to follow then it’s together and you don’t have to go and find the little different videos and what have you, but I suppose the more you do it, it will come naturally then hey.

Mom- DR7-F3 – Yeah I think I enjoyed it and I liked some of the as I say some of the techniques came much more easily for me, um and then sort of some of the question ones I think it was what we did in the 3rd week I had to keep going back and reminding I can’t remember which it was one of them I had to keep going back and saying what did I, what was I supposed to do so I think there to do that again, I’d need a hard copy more as a quick reference but I think a lot of them, yeah once you’ve done it a few times it becomes quite sort of natural almost um but I’ll definitely be, I think I’d definitely use it in reading new stories going forward because it definitely improved her engagement in the stories as opposed to just sitting and listening. There was much more buy-in sort of for some of them.

Researcher – OK cool, yeah. So, the next question is, “how could I improve the programme?” So some of the prompts are; the topics of the books, the difficulty which I guess we spoke about earlier, the difficulty of the books, the length of the books, the types of illustrations in the books, um the length of the reading sessions cause I know some of the moms yesterday had said that maybe 10 mins on one book was a bit long, um and then on other books it was like the perfect time so it was one of those things, so um the number of reading sessions so we obviously did, one reading session for 5 days for 4 weeks, so then that leads on to the duration of the programme, um and then also the content of the instructional videos um which is where the idea of having the hard copy of the summarised version came from and then also the frequency of the contact with the researcher so; did I message too much, did I not message enough did I message you enough content, did you have everything you needed, that kind of thing. And the clarity of instructions, so ya, a couple of prompts on “how could I improve the programme?”

Mom- DR11-F3 – I think it was actually great, I think you didn’t message too much you gave us enough information ya maybe um just a summary of basically all the 4 techniques that we

can keep practicing, just so we don't have to keep ya, because also, there was that third I think it was the third one and I think you also commented in my little voice-note, um I was using mostly open-ended questions but that was supposed to be for the following week basically...

Researcher – Oh, OK.

Mom- DR11-F3 - ... so I think that a hard copy or a copy of a summarised version would be, would help just to keep reminding of what techniques, what is the technique we are doing specifically. But I think I found everything else was um perfect, the length was enough time, it wasn't too it was nice that we could give, we had the option of did we want to read it once or twice or three times or four times or however many times you wanted to so it also it could suit whatever your situation is at home at that specific point if you didn't have a lot of time even that one time is also better than nothing then um yeah, so I don't have much feedback for you there, I mean negative feedback, I think it was all very good I think you did a great job.

Researcher – Thank you, I appreciate that.

Mom- DR7-F3 – Ya no, I think I agree um the 10 minutes for me was a decent length of time and I think it was more what made it too long or too short was more how my child was feeling. So on those days when she was really tired, sometimes the 10 minutes was a bit like OK I've got to read for 10 minutes I'm pushing it a bit, but on those nights, I mean there were nights when she was like 'can we read it again?' And I'm like 'no I'm done' I'm not reading it another time and I think in terms of appropriateness of books, maybe the age so you know, she's three so you know they were very well suited to 3 year olds and that sort of age and possibly if it was older children possibly too easy, and I suppose if they were much younger, I don't know how much younger you went that would have been too challenging, but for my experience and my child it was really good. In terms of your messaging, no, I mean it was one message a day which was actually to be honest quite a nice reminder for me, because ya you get busy and you forget so it was a nice 'oh, OK I mustn't forget to do this' um and just also knowing that when I did need to ask a question I could message you and you responded very promptly and very helpfully, that I kind of went cool that's fine that's what I needed to know um so yeah, I also don't really have any I can't think of anything from the top of my head that I think oh you could do that better. I think my only sort of comment would be again, I know it's possibly my child, because I know in that assessment like the telling the story at the end she was useless, but she doesn't talk to strangers so like and I kind of wondered if but again I know you need to do it, so I don't know if me doing it and recording it would give a different result 'cause I did,

I sat there going I know if it was just the 2 of us she would have probably spoken for 10 minutes. So that would be my only thing but I don't know how you get around that then in terms of different people do things differently and obviously it's ya I know that with all those testing all those very strict things but I think that was my only sort of thing because you know when I read those books to her she was G** she wouldn't shut up but ya again as I say I don't know how you get around that because I understand that you're the person doing it you've got to do those tests and I might ask too many prompting questions or not enough um which is then going to skew your results but ya.

Researcher – Yeah I think with kids I think, I obviously don't have kids myself, but like it could be a random day of the week and it could just be a bad day for the kid or it could be the wrong time of the day it could be you know so ya it's for obviously they don't know me, I know yesterday um the one mom said she had told her daughter that I was her teachers assistant, so she was doing it for her teacher. So then she was more engaged with me, but then apparently she made the mistake of going to her teacher and saying 'oh teacher um you know Tory's been helping me' and you know the teacher obviously didn't know who it was um so yeah was quite a funny one. I know the one thing that was mentioned yesterday was perhaps um so we had one book a week instead of doing that, maybe having um like one book a day of the week so having 5 books on rotation throughout the weeks so that...

Mom- DR11-F3 – With the same technique?

Researcher – Yes, because the the like the one lady had said how the by the end of the 3rd day her daughter could just recite the whole thing um and she was turning the pages by herself and you know, so for I guess that's maybe because she was already 5 but for that kind of thing, to keep the interest because by the 3rd day you know, reading the same story and if they're used to reading different stories every day then kind of gets a little bit tedious for them um so that was something that was mentioned yesterday, um so ya, something I guess we could think about if.....

Mom- DR7-F3 – Yeah, I think my only comment would be about that is that I found that the first time you read the story, so for your first week I think it would be a bit challenging because the first time you read that story you asked the questions and used the techniques was quite difficult because you didn't know the story as a I suppose you would have had to have read it first, but with a child um you know they didn't know especially that finishing sentences they don't know that story so I think that might also depend on your technique there. That one they

need to read it more often to start to be able to finish the sentences whereas the one where you're answering questions that you could do more easily but I think sometimes the technique needs more than one reading to actually do effectively from yeah, I often found that first night quite challenging and more because she wasn't familiar with the story so I'd have read it through quickly before reading to her but she didn't know it um so yeah that would be my only, but ya I hear what they're saying, I think that variation would be nice, but I just don't know how practical that would be.

Researcher – Yeah, or maybe perhaps having 2 books a week instead of one every day or yeah 'cause then you have got that like you say, that repetition so that they can get to know the book but then it's not too much that they get tired of the book and yeah because then they would also then read the same books the next week you know, so then it could be so then they would the following week obviously you would add the new technique but then you would be able to practice the other one as well and they'd know the book and maybe and ya.

So then, the last question is: “do you have any advice for me in terms of adaptations to the programme if I was to do the study with parents and children in a low socio economic status (LSES) community?” And the reason for me asking that question is, originally when I started my masters I had wanted to do this type of programme face-to-face in a low socio economic status (LSES) community trying to help the moms learn techniques to better the children's vocabulary and narrative skills um and then obviously Covid happened and I obviously then wasn't allowed to go face-to-face with anybody and recruiting from communities like that is very difficult over uh the internet and it obviously had limitations with in terms of devices and data and costs of things like that so ya, “do you guys maybe have any thoughts on how I could adapt the programme um to be more LSES friendly?”

Mom- DR11-F3 – Would it not be, would it not be ya maybe wise to work with a teacher then at that point rather than as a parent because I mean, on I guess that's with everyone though, but I think a lot of these ladies specifically that are going to work for the full day sort of thing and then when they get back they don't always, and I know this is such a stereotypical comment now it's actually ridiculous, because I'm sure a lot of you know, poorer mothers or whatever will definitely read to their kids as well but maybe it can go through the teacher and then the teacher could pass it on through the parents as well, so it could be coming from school and at home. I think that would probably be the easiest. Um otherwise, to go to one of these, even these aftercares you know where specifically to the aftercares where the kids are only going

home at 7pm at night or whatever maybe that would be an idea to go and work through that through the aftercare but the teachers there, maybe just in groups or little groups, ya possibly.

Researcher – Yeah, thank you.

Mom- DR7-F3 – I think also possibly too, if you are looking at parents or caregivers or whoever I think a one-on-one for some of the techniques because I know even for myself as a teacher and being quite familiar with this sort of stuff, I still had to watch some of those videos twice to kind of go ‘OK cool’ or check that I was doing the technique properly and I think often that one-on-one would be quite beneficial obviously huge time thing from you but to sit there, you do it and then I do it, and then you say ‘OK cool’ what this or that’s the kind of question you could ask I think that in your LSMs might be an easier way of doing it and then possibly even that hard copy that we’ve all said we’d quite like for them as that reference and look I mean the video was also helpful because was easy to go back then go ‘hold on, what type of questions did you ask, how can I do it?’ Um and then possibly a hard copy, cover book but again that’s got a lot of other implications that go with it so its more expensive initially but for those families then it’s done, and it’s giving them reading material that they possibly don’t have access to but then I’m sure you’d have to look at sponsors and all sorts of other things but ya I think what **Mom-** DR11-F3 said about the teacher as an in, is also a nice idea because I think parents will often listen to...

Mom- DR11-F3 – The cheaper version to do it in the beginning basically is you can also just do definitely hard copy books would be the, I don’t think you’d find a lot I think everyone’s got smart phones what have you but you can’t, I don’t think you can generalise there, so then so definitely hard copies but you could actually just make photocopies then photocopied hard books in the beginning and then obviously then if you do get a sponsor or whatever, then they can get a maybe every now and then a nice colourful brand new book but the rest can just be black and white photocopies. ‘cause I actually work, I used to work at RF Louw down the road, in the beginning we couldn’t afford books through the school that was how we had to do our reading books in the end, we had to just photocopy them in black and white basically.

Researcher – Yeah, that’s not a bad idea, yeah definitely. I think I would, I spoke to one of the moms yesterday because she works in a LSES community with children, and she was telling me that it’s very needed this type of programme it’s obviously, they don’t have the excess data to be downloading videos and won’t necessarily have free access to a tablet or like you say a phone that would be able to show appropriately, the books and things but um yeah, and she had

said that going through the schools and getting the teachers involved would be something I could do so ya, thank you I really appreciate the input there. Yeah, that is all my questions so, do you have anything else to add?

Mom- DR11-F3 – No, thanks, thanks, that was a nice little I mean, as you said yeah we're both teachers but we don't always know all these little techniques, I mean and it's nice it's great to its helped me a lot and yeah and reading other stories now and how to specifically the completion of actually eliminating a word every time, I never used to do that ya so it's been very helpful in that sense, so thank you for that.

Researcher – Oh I'm glad, yeah sure.

Mom- DR7-F3 – We've enjoyed it and thank you for letting us be part of your study and I hope that you get some good results from it and things that you can do. I'd be really, I'd really like to know what you end up doing with this.

Researcher – Definitely I'll share the 'cause my, if I submit, I'll if it gets the university automatically publishes it onto the university website so I can always share the thesis link with you guys and then you can, you don't have to read the whole thing, but you can go to the results bit, the obviously, the results will all be anonymous and you won't be able to tell who's your kid and stuff but I'm yeah it will hopefully from I've been writing up the results over the past 2 days now and it does look very interesting so even the so you guys were in group 1 and you did the DR the second group they didn't do DR they just did traditional reading and it's actually, and I don't know if it's just the amount of reading and you know, maybe it was more than what they did before, there the 2nd groups reading has also improved so yeah, it's really interesting and I'm quite excited to see what happens when I type it all up, so, I will definitely let you guys know how it goes... But thank you very much for participating for the whole study and for doing this video call with me. I really appreciate all the input.